

JANUARY 1950, 35 CENTS

Modern PHOTOGRAPHY



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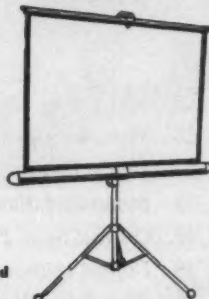


YOU GET MORE Trade-In Allowance for your old exposure meter, regardless of age make or model number, towards the purchase of these fine new meters.

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A convenient dependable tripod screen in a one piece, self contained unit for projection of your fine movies or slides. The H-F Glass Beaded fabric screen surface stays clean and white... it brings out the best in your movies and slides.

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HF All-Metal Slide File Box: holds 100 2 1/4 x 2 1/4" slides. Reg. \$4.00.	\$2.99
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No. 2609T (Illustrated) Large enough to hold a complete 4x5 Speed Graphic Outfit. Made of weatherproof, waterproof, washable, TOLEX leather-cloth. Size: 4" x 10 1/2" x 5".....**\$14.50**



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These fine lens are all in Kodak Mount to accept either "c" Thread adapters or Magazine Adapters. Ideal for 8mm or 16mm.

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Reflex 35mm Camera

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Modern PHOTOGRAPHY

COMBINED WITH
MINICAM PHOTOGRAPHY

contents, February, 1950

articles

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10 Ways to Improve Home Movies, see page 80

HOME AND EDITORIAL OFFICES: TWENTY-TWO EAST TWELFTH ST., CINCINNATI 10, OHIO

Modern Photography (combined with *Minicam Photography*) (title reg. U. S. Pat. Off.) Publication Office, 404 N. Wesley Ave., Mt. Morris, Illinois. Editorial and Executive Office, 22 East 12th St., Cincinnati, Ohio. Published monthly by the Automobile Digest Publishing Corp. Yearly subscription, \$3.50 in U.S.A. and possessions, Canada and countries in Pan-American Postal Union. Elsewhere, \$4.50. Single copies, 35c. Canada, 35c. Eastern advertising office: Everett Gellert, 251 Fourth Avenue, New York City, phone Oregon 3-9300. Midwest advertising office: Bernard A. Rosenthal, 333 No. Michigan, Chicago, Ill., phone Andover 3-7132. West Coast advertising office: Edmund J. Kerr, 6605 Hollywood Blvd., Los Angeles 28, California, phone Hemphstead 3171. Entered as second class matter at the Post Office at Mt. Morris, Illinois, under the Act of March 3, 1879. Additional second class permit entered at the Post Office, Cincinnati, Ohio.

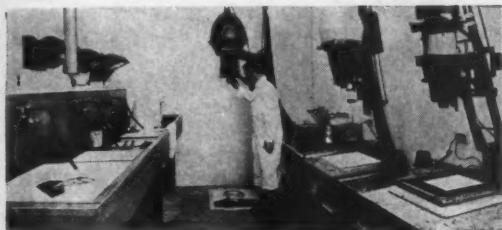
Dream Studio pays off for two SMP Graduates



FRONT OF BUILDING . . . Georgian style, southern colonial facade fronts on the park. This emphasizes the quick success achieved by these two SMP graduates.



RECEPTION ROOM . . . The modern reception room was planned while the Avant brothers were still students at SMP. They were in constant consultation with their SMP instructors from whom many valuable suggestions were received.



PRINT ROOM . . . Even before their SMP course, the Avants learned the importance of photographic printing. Here, after SMP training, they produce perfect examples of everything from contact prints to photographic murals.

DOWN in Tallahassee, Florida, the Avant brothers, George and David, operate one of the finest commercial, portrait and color studios to be seen anywhere. It occupies an entire building.

Before the war, both had long experience in journalistic photography. At war's end, they planned a complete commercial studio. But first they came to SMP for training in Advanced Portraiture, Commercial and Color work.

After many years of saving and preparation, the result is this truly modern workshop. Now, after two and a half years, their business has more than doubled. Surely a striking proof of SMP's unmatched training facilities and faculty.

If you would like the full story of the Avant brothers, write for a free copy of SMP Newsletter for November, 1949.



MAIN STUDIO . . . Shown here are David and George Avant at work in one of their studios. Many of their camera assignments are photographic illustrations for magazine covers and varied advertisements.



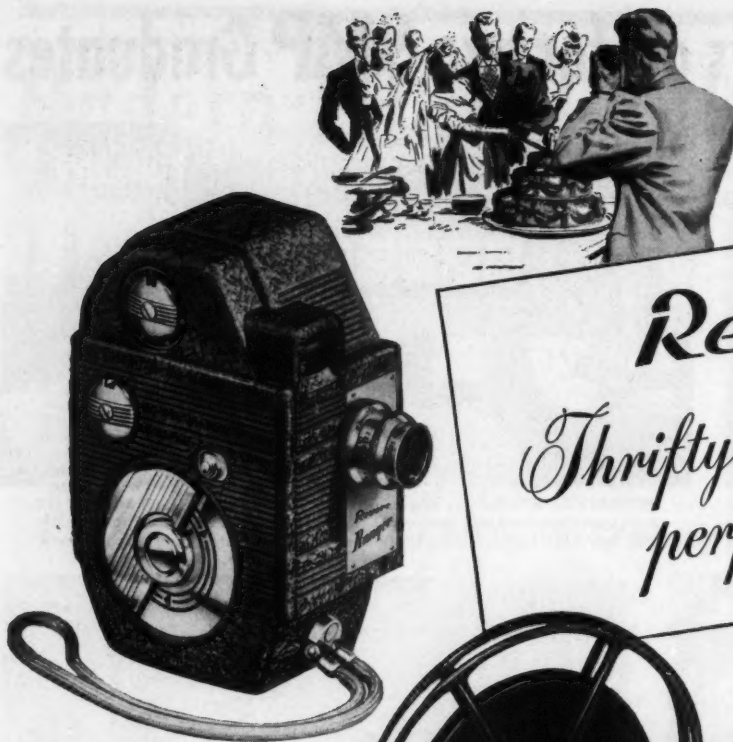
FINISHING ROOM . . . This meticulous, air-conditioned finishing room is part of their well-organized studio. Knowledge gained working with SMP's unrivaled facilities aided substantially in their choice of equipment.

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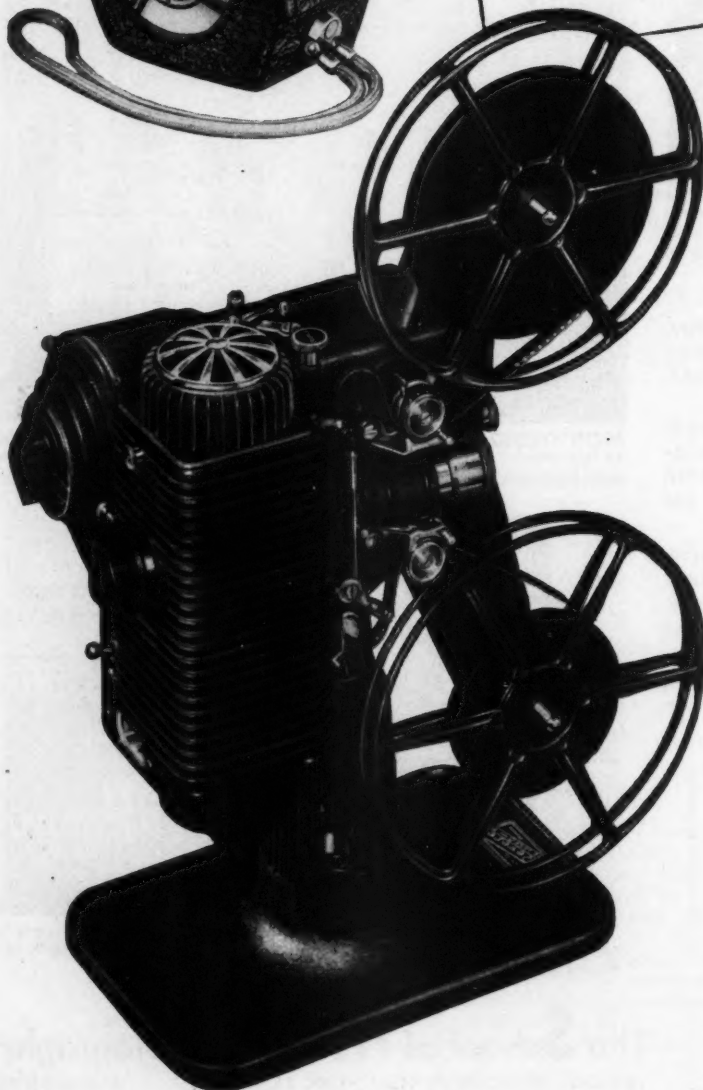
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We have special models for all Rollei, Leica, Contax, Kodak, Argus, Bantam, and all other non-synchronized double-action (cocking) shutters.

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If you want extreme sturdiness, this in it! Tripod can be disassembled in a few seconds, to a 15 1/2" package. It extends to 41 1/2", 62" with Extensor. Single push-button raises your camera to 20 1/2" above tripod. (Extensor will fit your other tripod, too!)

Shipping Weight 6 lbs.



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Tripod. We are proud to offer this exceptional tripod for the serious worker who appreciates the advantages of a convenient elevation mechanism, combined with extreme sturdiness. A unique brace arrangement not only holds the pole perfectly steady, but also assures 100% support for the heaviest cameras, through its tight hold on the legs. This two-section all-metal tripod folds down to 25" weighs 4 1/2 lbs.; its pole is adjustable from 38" to 55" above floor level; a single twist locks legs in position; reversible metal-rubber tips; camera base can be used for panning. Ideally suited as projector stand (Projector top \$2.95 extra). Designed to sell for twice our price of **\$10.98**

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2 X 2 SLIDE FILE**

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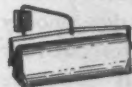
Shipping Weight: Stand 4 lbs.; Reflectors 4 lbs. Suggestion: Two #2 photoflood bulbs \$6c.

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coffee break with the editors

Tracer Lights

Way back in October (1949) we printed an article about Tracer Lights and asked readers who were interested in this subject to let us see samples of their work. We are still amazed by the response we received, and especially



Time and motion study

by the variety of uses that tracer light patterns have been put to. In addition to amateur experimentation just for the fun of it, many photographers are basing scientific research upon tracer light studies. Out in Kansas State College, for example, Instructor R. C. Wishart uses tracer light patterns (which he calls Chronocyclegraphs) in classes studying time and motion economy. Tracer light photos are especially useful for recording movements that are too rapid to time with stop watches, yet not complex enough to warrant use of micro-motion pictures. While most of the pictures used in the classroom illustrate the complex motions that lathe, milling machine, and drill press operators perform on their jobs, the picture above shows the exact path of the motions made by a man who picks up pins, one at a time, and inserts them in a flat board. Even an elemental study such as this reveals not only the paths of motion, but also the speed of various motions—the latter being recorded by the camera as thin lines for rapid operations, and wide lines for slower movements. We can't help but wonder how many other schools are taking advantage of photographic tracer light patterns for their

time-motion studies. Probably more of them than we suspect.

Photography Lured Them

It turns out that Paul Himmel whose imaginative photographs are on pages 60 to 67 of this issue started out to be a teacher in the field of biology and general science. Amateur photography held his interest all through high school and college and by the time he was 31 he decided to ditch biology completely to become a full time photographer.

When you go through the list of people who started out to be something else and ended up as photographers, it looks almost as though the best way to become a top notch photographer is to start out in life as a banker, artist or book salesman. For instance, George Karger was doing pretty well in a bank in Germany until he won a photographic contest. This gave him such a jolt that he never recovered from it. He has been making pictures for such magazines as *Life*, *Collier's*, and *Vogue* ever since.

Fritz Goro was a sculptor; Andreas Feininger studied architecture with Le Corbusier. Roy Pinney studied entomology, ethnology and perpatology so intently and completely, using a camera as a research tool, that he found himself more interested in the camera than the material he was researching.



Paul Himmel. See page 60.

Philippe Halsman was an engineer in France before he was exposed to photography.

Continued on page 10

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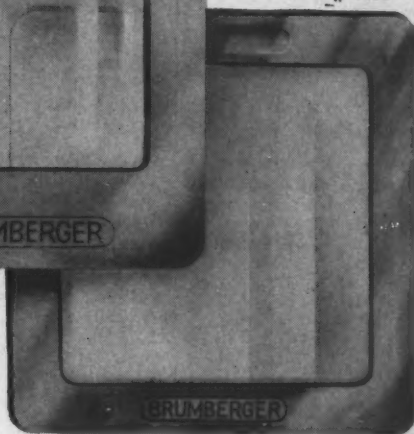
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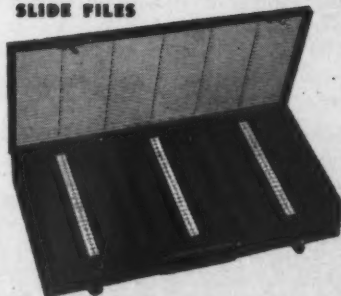


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Coffee Break

Continued from page 8

To prove the rule, of course, there were photographers who started out as photographers, such as Arnold Eagle and Fritz Henle.

Jet Jobs Are Out

Just before quitting time the other afternoon, *Modern's* editors discovered that they lacked a picture to complete the illustrations in an important article. There followed a quick conference and the decision to ask photographer George Hoxie (a former editor of *Minicam*) to shoot, develop and print the picture overnight. A few min-



utes later a long-distance telephone call to Oxford, Ohio had completed the arrangements.

Delayed by a dentist appointment, one editor arrived at *Modern's* offices a little late the next morning. To his amazement every office was empty. Just as he was about to inquire into the nature of the sudden holiday, in tramped the rest of the editorial staff. Rather than wait for the needed picture to arrive by mail, they had piled into a light plane and flown 80 miles to pick it up at the Oxford airport.

With several key editors buzzing around with private pilot licenses and others acquiring their fledgling wings, it is rumored that the publisher winces at the mention of ordinary planes and will fire the first editor who nuzzles up to a jet job.

How's Your French?

Pseudo-science literature abounds with the adventures of little white-robed gnomes who, in the semi-twilight of their fantastic laboratories, create living cells that suck up nourishment and grow until they assume gargantuan proportions and threaten to engulf the globe with their palpitating bulk.

Modern's editors haven't created any berserk cells lately, but we have launched an idea that threatens to get

out of hand. Our offer to publish the names of amateur photographers overseas who would like to exchange letters and pictures with American amateurs was published in practically every photo magazine in Europe and Asia, as well as in countless newspapers throughout the world. Immediately we were deluged with mail from English-speaking amateurs who want to make American friends. In the January issue (page 78) we explained the idea and printed names and addresses of several hundred French amateurs. The list is continued on page 106 of this issue and new names will be added as often as we have space available. In the meantime we would appreciate *your* reactions to this idea. We would especially like to hear from those of you who contact amateurs overseas and benefit by an exchange of letters and pictures.

Where to Sell Pictures

Those of you who wrote in about the article *500 Places to Sell Pictures* will be glad to know that your wishes are being fulfilled. This article, complete with all detailed listings of the editors, advertisers, photo agencies, and syndicates that are in the market for pictures is being reprinted in handy booklet form. One re-printing, however, is all we are likely to have press time to squeeze out, so if you want a copy, place your order early with our *Photo Market Editor*, care of *Modern Photography*, 22 East 12th Street, Cincinnati 10, Ohio. The price is 25c per copy.

On the Docket

Do the big-salaried magazine photographers get a fine negative every time they click a shutter? Or even almost every time? Since they have to shoot under any and all conditions, your common sense tells you that some of their negatives are bound to be poor. If you are interested in learning how beautiful prints can be made from practically any kind of a negative that contains an image, be sure to read "How Life Makes Black and Whites" in our next issue.

Do you like to make close-ups? The best article on proxar supplementary lenses that we have ever published is on the docket for the next month.

Does the first hint of spring in the wild blue yonder make you want to dig out your filters and nuzzle up to the counter for a fresh supply of color film? Before you shoot much spring color, be sure you are using the right filters for the season. If you aren't certain about what to use, you'll find the answers in "Color Filters for Spring Pictures" for our March issue.



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did you know? technician's notes

... that one important thing to look for when considering the purchase of a movie projector is a thing called "Theatrical Framing"? Possibly you have seen an amateur film projected so that the frame line was visible on the screen. The projectionist would then adjust the projector and the frame line would disappear. Chances are that the picture was actually raised or lowered on the screen itself. This was an amateurish way of doing it, for the projector must then be re-adjusted to properly position the picture on the screen. In regular movie theaters, the framing adjustments do not alter the position of the picture on the screen. For correct projection, the picture is thrown onto a screen that has a dead black border so that the picture overlaps the black border evenly all around. This is the whole secret of the cleancut borders that theater projectionists get on their pictures.

... that you can make copies without the use of a camera or a negative? This is easily done by using the Reflex process. Place a piece of printing paper with the emulsion side in contact with the page or drawing to be copied. Then a light is held over the back of the printing paper, for a short time. Light passing through this photographic paper is reflected back to the sensitive emulsion by the white parts of the original. The darker parts of the original absorb light, so that when the paper is developed in a contrast type developer a useful negative copy is made.

... that excessive reflection on highly polished surfaces can be toned down without harming the object? Pat the offending surface with putty, being careful to use putty that is not too wet. Another trick is to spray the object with liquid wax, which dries with a dulling finish. Both of these coatings can be easily removed with a soft cloth.

... that most electrical supply houses stock a "foot switch" that is ideal for printers and enlargers? It is much flatter than the usual switches made just for photo uses. It is also cheaper. Shaped like a four-leafed clover, it can be stepped on from any angle, and will close the circuit.

... that in a pinch you can probably stand on your car roof to gain extra camera height without denting the metal? On a recent assignment I needed a higher camera angle than my tallest tripod could afford. For a while the problem had me stumped; then I



... not even a dent

happened to think of a small wooden tripod in the trunk compartment of my car. With a jackknife I dug a small hole near the tip of each leg of the wooden tripod. Spraddled across the roof of the car, the wooden tripod then formed a support for my regular tripod when the spike tips of the latter were forced into the small holes. The car roof kinked in a couple of places under my weight, but when I pushed the kinks out from the inside of the car, no dent or mark of any sort resulted. I'll do it again—if I have to—but not for movies. Movies are out because of the flexibility of the car springs.

... that many tripods now marketed are supplied with rubber "crutch pads"? These rubber tips, especially when flexible, are not practical for movie pan shots or for time exposures with still cameras where camera steadiness is required. While soft tips protect floors and carpets, as well as your own hide, you are far better off—picture wise—to use the sharp points whenever possible.

MAURY KAINS

amateur report

I didn't pay much attention to Miss Tilford the first time or two she left film at my shop, *Andy's Photo Mart*, for developing. She was one of those gray, mouse-like little creatures who have taught school so long that you almost expect them to leave a trail of chalk dust in their path. It was the day that I saw her camera and glimpsed disappointment in her face when she picked up some pictures we had processed that I got interested in her problem.

The camera was an old-fashioned folding outfit that made post-card size negatives, but the funny thing about it was that it looked brand new. When I mentioned how nice it looked, Miss Tilford's eyes brightened with pleasure.

"It was a gift from some of my pupils over twenty years ago," she explained. "I hardly used it until I decided a while back that photographs might help me teach drawing in some of my classes. Balanced composition and that sort of thing, you know."

"And is it doing the job?" I asked.

Miss Tilford shook her head. "I guess I haven't the knack of making good snapshots consistently. Once in a while I get clear pictures but mostly they are like the ones in this package."

"Would you mind letting me see your negatives and prints?" I asked. "Maybe your camera isn't working right."

The contact prints that Miss Tilford showed me were beautifully composed landscapes, and pictures of archways and statues. You could tell right away that they were made by a person who understood picturesque composition. But except for one picture of a statue, each contact print had either a fog-like veil, or a bright flare spot that spoiled it. Comparing the good negative of the statue with the fogged negatives in the package, it was no trick at all to figure out what was spoiling Miss Tilford's pictures.

"Have you noticed, Miss Tilford," I said, holding up the print of the statue, "that the only print that came out clear was the one you made with the sun behind you?"

Miss Tilford nodded. "That is what makes it so discouraging," she said. "I try to avoid having the sun directly in back of me because it usually lights a subject so flatly that one gets no im-

Lenshades improve any picture



TOO LONG a lens-shade usually ruins a picture by cutting off the corners, causing them to print black. In this case, Frank Scherschel intentionally used too long a shade in order to throw emphasis upon his subjects with an unusual effect.

pression of its texture or modeling. By having the sun to one side of the subject I obtain the modeling I want—but my pictures always look washed-out when I get the prints. Is something wrong with my camera?"

The one good negative in the group had already given me the answer to that question. "Your camera seems to be in fine working order, Miss Tilford," I reassured her. "All you need is a simple little gadget called a lens shade. Your whole trouble, you see, is sun-flare. In other words, when you try to bring out the texture in a subject you sometimes point the camera

in such a way that the sun can strike the lens. In one of these pictures, for instance, you can actually see the sun up here in the corner of the print—it appears as this white spot surrounded by a big, milky halo. In the rest of the prints the sun itself doesn't appear, but its rays either glanced off the lens or were reflected into it in such a way as to produce a dull, fog-like veil over everything in the picture. The same thing would happen if you were making indoor pictures and allowed a bright light to shine into, or across, the lens."

"And a lens-shade, how does it

work?" asked Miss Tilford.

I pulled a tray of lens shades out of the display case and placed it on the counter. There were lens-shades of all shapes and sizes in the tray; a few of the bigger ones were made of hard rubber or plastic, but the majority of shades in all sizes were constructed of spun aluminum. "The first job of any lens shade," I explained, "is to keep as much stray light from the lens as possible without extending out so far in front of the camera that it cuts off part of the picture. While a lens shade alone doesn't make it possible to point a camera directly towards a light source without questionable results, it does limit the amount of reflected light from buildings, sky, sand, snow, or other bright surfaces that 'bounces' back into the lens. Most of your pictures, Miss Tilford, were spoiled by 'reflected' light that a lens-shade would eliminate. With a filter—especially a Polaroid filter in your lens-shade, you can sometimes shoot straight into a hazy sun without having the picture spoiled by flare."

Miss Tilford's next question was, of course, about filters. I showed her how the ordinary lens-shade comes apart in two sections so that a glass filter of any color can be inserted. The portion that holds the filter in place, I explained, is called the 'retainer ring.' Many professional photographers keep the retainer ring portion of their shades, together with a light yellow filter, on their camera lenses at all times. The width of the retainer ring is so small that it does not interfere with the closing of the camera's carrying case in most instances. The purpose in leaving the retainer ring and filter in place is to protect the soft glass of the lens from dust and grit. In bad

weather, the filter shields the lens from flying sand, salt spray, or moisture. In sunny weather, the rest of the shade can be replaced in a jiffy.

"Lens shades are manufactured in such a variety of sizes that it is possible to fit almost any camera having a projecting flange or lens mount," I continued. "For your particular camera, Miss Tilford, either a 'slip-on'

shade, or one that is fastened in place with a thumb screw, is available. Some people prefer shades that attach to the lens flange with thumb screws because they feel there is less danger of the shade dropping off. The 'slip-on' shades, however, take less time to put on or remove, and the tiny flanges that grasp the lens mount can

Continued on page 115



THE LEITZ people didn't spare the horses in designing a shade for the new Summar lens on the Leica. This square shade cuts out extraneous light rays, and folds up as flat as a pocket notebook. It costs \$15.

Photo: Anton Souchi



INDOORS, a lens-shade protects the lens from direct beams of light from illumination sources which very often cause white "flare spots" in the picture. Most inexpensive lens-shades come apart in two pieces (center) so that colored glass filters can be inserted between the shade portion and the retainer

ring. Three types of lens-shades are shown at the right. The most common type is round in shape; the Rollei "bayonet-type" shade is square with rounded corners; the shades for larger cameras are generally square and have slots for admitting glass filters.

Photos: Jack Reynard



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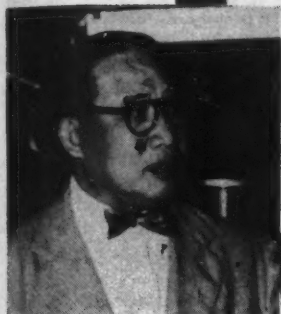
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A publicity still from a recent motion picture directed by Ricardo Marcelino, A. S. C.



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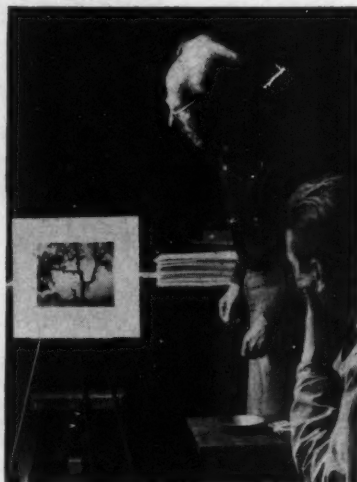
Mr. Rolleiflex, (Paul Franke of Franke and Heidecke, Braunschweig, Germany) visited Los Angeles recently on his first trip to the west coast (fourth to the U. S.). One of the men who invented the Rolleiflex (the first of which was produced in 1929), Mr. Franke says that the 750 workers now working in rebuilt factories have turned out 50,000 cameras since the end of the war. The Rollie is sort of an international camera today: the factory is in the British zone, the *Compur* shutter is made in the American zone, and the Zeiss lenses come from the Russian zone. Though by the time you read this you may be seeing Zeiss lenses from a new factory in the American zone. The *Xenar* lenses are made by Schneider in the French zone!

No radical design changes in Rolleis are anticipated says the camera's father. While they have explored every new idea, most of the gadgets which might be added would ruin the simplicity of operation that now exists.

Edward Weston holds open house every Sunday at his Carmel home for the purposes of informal discussions of photography with friends and admirers. We went out last Sunday to see what it was like, and found Weston in the big living room, seated beside an easel on which he displayed a print. For two hours we watched him display a cross-section of his work, and listened to his stimulating comments and the criticism offered by visitors.

These particular prints were part of a collection of over 100 he is sending

... Sunday P. M. with Edward Weston



to Paris for the show sponsored by Group 15 at the Maison Kodak on Place Vendome. Included are a number of his west coast pictures, nudes, pictures taken on trips to the south, and even some of the Point Lobos details which he made famous.

Brett Weston, Edward's son, told us that at last he is getting around to finishing up a book of his own work which Merle Armitage will publish. His father is also working on a new book on the years he spent in Mexico.



... Earl Leaf and model Billie Nelson

Newcomer to the West Coast is Earl Leaf, lately of Paris, the West Indies, and points all over the globe. After publication of his book on the native dances of the West Indies (*Isles of Rhythm*) last year, Earl moved back to New York where he also functions as a vice president—he didn't remember which one—of the picture agency Rapho-Guillumette.

"I guess I moved west to sunshine because underneath I'm just a hedonist, a Sybarite", he answered in response to my question of how come L. A.? "I'm not a real assignment photographer," he explained. "You might call me 'independent' rather than free-lance. When winter comes I don't want anyone telling me I have to shoot a two month assignment in Alaska. I just want to sit under a palm tree and dangle a native girl on my knee! Photographers here don't know how well off they are."

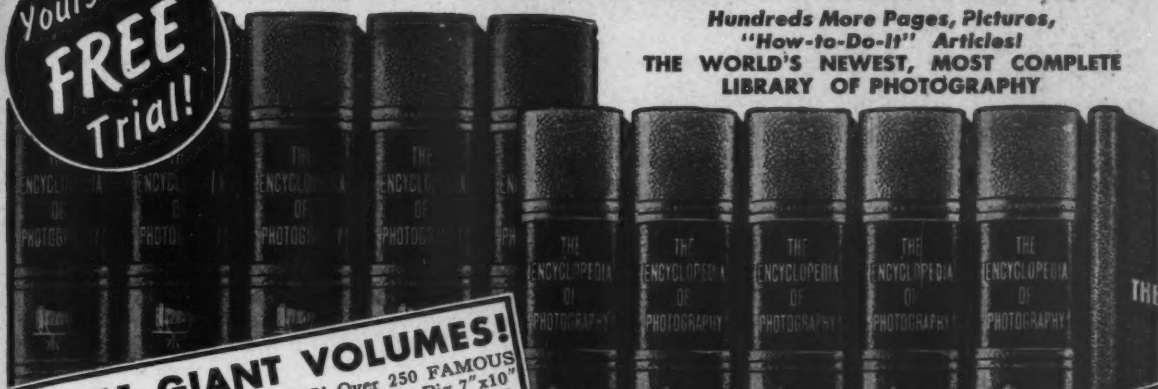
Since Earl moved to L. A. here he's been covering (or uncovering) some of the most beautiful models in town to grace America's magazine pages. At the beaches he has thus far escaped the dunking George Boardman had

Continued on page 117

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by GEORGE KARGER

"You're crazy, George!"

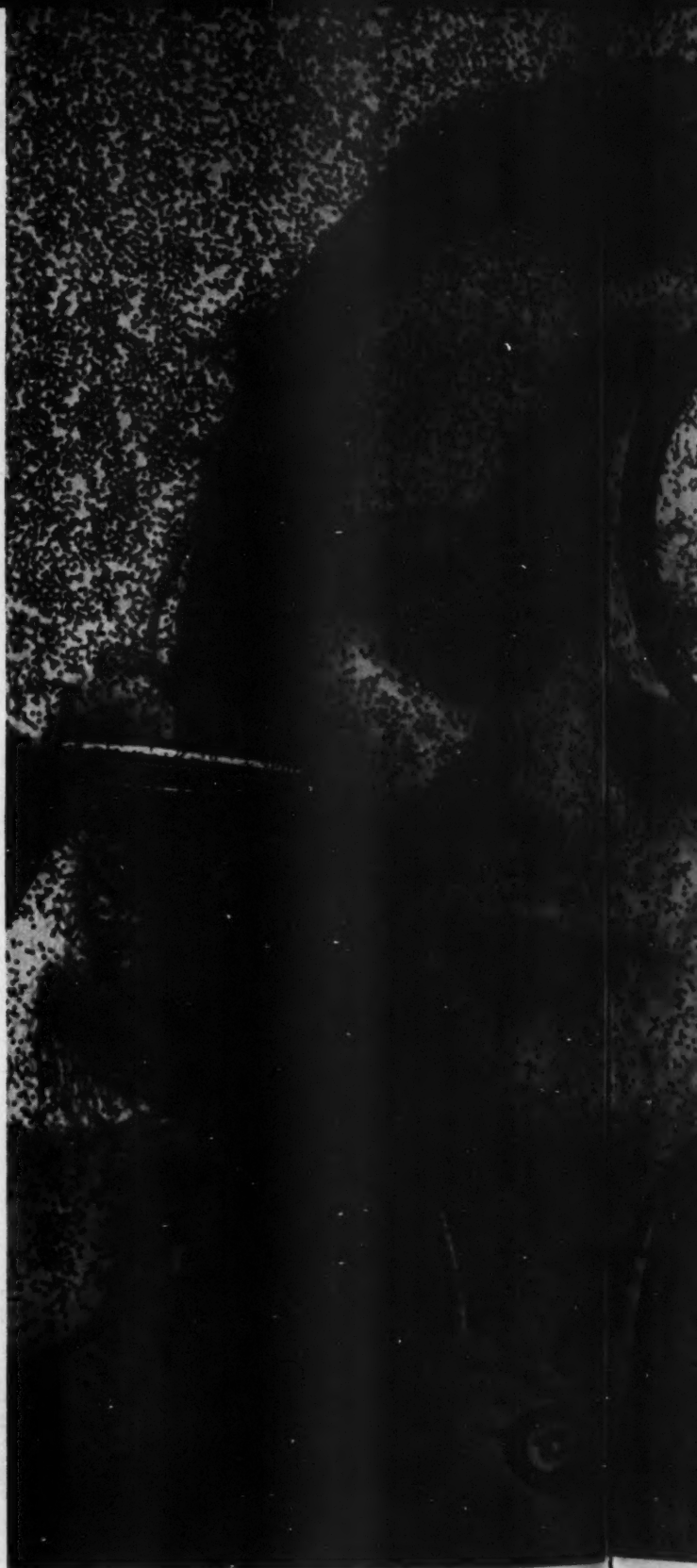
The speaker was a manufacturer of waterproof musical instruments. *Life's* editors had asked me to photograph his products in color in such a way that musicians, who are severely handicapped by the effect of moisture upon their instruments in wet weather, would receive the advertising message with dramatic impact.

His comment came in reply to my suggestion that we dunk the instruments in water to illustrate vividly and simply the waterproof feature.

I had become accustomed to that remark in the years since the '20s, when I quit the banking business to become a photographer. So I went ahead with my idea.

I decided to use a harp and, as a model, the very lovely harpist of the NBC Symphony Orchestra. We wrapped 10 yards of pink gauze around the girl for a costume and then plunged her and the instrument into a glass tank of water.

The closest tank available happened to be at a Broadway theater where it was being used for a hilarious scene in the revue "Make Mine Manhattan." Because there was a matinee and evening perform-





KARGER likes to tackle a picture that challenges his ability to dramatize an otherwise drab subject. This strange picture, left, was made on the spur of the moment while he was photographing routine factory scenes. As he watched a girl at a bench sorting out the tiny ball bearings that go into Sonotone hearing aids, it occurred to him that her job could be dramatized by placing the bearings on a sheet of glass and shooting up at them from below. LESS interesting to Karger, because it offered less opportunity for originality, is the picture of Lizabeth Scott (below) which was one of a series made at Jones Beach, N. Y., for Paramount Pictures. Both photos were made with a Rolleiflex camera.



ance on the day we planned to take our photographs, we had to shoot between the two performances.

Six times the courageous young woman went down into the tank. Each time we had to work fast because she could not hold her breath for more than a few seconds under water.

Another problem presented itself. The water in the tank had been used for several performances and was colored by the makeup which had washed off the face of the actor who entered the tank during the revue. In order to achieve a watery blue effect in the water, I had to shoot with a blue-green filter.

The lighting was also a problem. We had to shift the lights around considerably and finally wound up with side lighting to eliminate glare and reflections that were distracting as well as unattractive.

On the fifth try, we got what we wanted. The girl, who was seated in the tank acting as if she were playing the harp under water, had just the right sweep and pose. Although the client called me crazy when I originally proposed the idea, he liked the shot immensely when he saw it and it proved to be an eye-stopper when it was published.

Maybe it's my love of the theater, but this effort to dramatize a photographic subject springs naturally from within me. Pictures for the field of advertising and illustrative photography must have eye appeal, dramatic intensity and be different if they are to attract the viewer's eye.

Thirty or 40 years ago, any candid shot was certain to stimulate interest because it was different than the customary staid, stereotyped pictures. In the last 10

A GAG picture story on how to eat borscht brought Karger and actor Mischa Auer together at a hotel in the borscht belt. Insisting that all the world loved borscht, Mischa offered a bowl of it to a horse. The horse took one whiff of the borscht and curled up his lip. When Mischa retaliated in kind, Karger clicked the shutter. The picture opposite was made with a Contax 35mm camera by shooting into the light during a floorshow at the Latin Quarter in New York.



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ABOVE, Emmett Kelly autographing a program for a winsome circus fan. While Karger (below) kidded a girl modeling a grass skirt bathing suit by performing an impromptu hula, a friend snapped this picture. OPPOSITE, a Duto filter on Karger's Rolleiflex helped give this dressing room scene its luminous, soft-focus effect.

or 15 years, however, people have seen a lot of pictures. Today, to avoid being hackneyed, the photographer must use a new approach to get a picture that isn't boring.

Sometimes the new approach means simply using the elements of the picture which are at hand and introducing a new device to add the dramatic spice. For example, I was hired recently to take some industrial pictures of the manufacturing of hearing aids at the Sonotone Co. plant in Elmsford, N. Y.

In one section, however, I chanced upon a girl worker sorting tiny ball bearings used in the hearing aids. She was sorting them on top of a bench and using a magnifying glass because they were so small.

I knew that the basis of a good picture was at hand, but how to obtain it? Finally I hit upon an idea. I asked for a sheet of glass and had the girl place the bearings on top of it. Then I climbed under the glass plate and shot from below, getting the picture which appears on pages 22-23.

The new approach to a picture subject—which is essential for any photographer who calls himself creative—is sometimes very subtle. Recently I did a

Continued on page 120







from black and white negatives

The Kodak Flexichrome method of producing color has proven to be the simplest method so far for producing prints of the finest technical quality. It is, however, a technique for the advanced photographer and for the use of those who have well-developed skills in photography.

Basically, the Kodak Flexichrome Process is a method of making color prints from black-and-white negatives as well as from color originals. Thus any monochrome negative or color transparency can be used as the beginning of a color print. This represents a tremendous achievement since heretofore the production of the finest type of color prints was possible only when the photographer began with a color transparency or a set of one-shot color separation negatives.

The technique is a color conversion process. It uses color dyes to convert a special photographic print to a full-color picture. The dyes are applied with water color brushes, but are true dyes rather than water colors or oil paints.

How is a Kodak Flexichrome Print made? It begins as a black-and-white negative—any negative made either direct or from a color transparency. The way that the subject was illuminated is fairly important—since subjects illuminated for color photography give better results than those lighted for black-and-white. The Flexichrome print begins when the black-and-white negative is placed in the enlarger or on the contact printer. An outline of the temperatures, solutions, and procedures is given in this month's Photo Data (See page 88).

***Eastman's new
Flexichrome
process is the
easiest way
yet to make
color prints***



1. STRIPPING FILM, backed by black paper, is exposed in enlarger or printer through the film base (emulsion-side down). Exposure is most critical part of the entire process.



2. COMPONENTS of the special 3-solution contrast-control developer are combined just before use, since developer oxidizes in a matter of minutes after solutions are mixed.



3. EXPOSED stripping film is immersed quickly in developer for uniform results. It is developed for two minutes under yellow-green (Wratten Series OA) safelight illumination.

From this negative a special positive print is made on Flexichrome Stripping Film. This film has about the same emulsion speed as No. 1 Kodabromide paper, and it's handled in somewhat the same way. In fact, it's a good idea to use this paper for test strips. It saves money, for Flexichrome film is fairly expensive. It is, however, exposed through the base! Such an exposure best builds up the relief image which is the basis of the entire process. This image differs from an ordinary photographic image in that the emulsion, after development, doesn't have a smooth even surface—although to the unaided eye it may look that way. In cross section it is actually a mass of mountains and valleys. Each "mountain" represents a shadow area; each "valley" a highlight. Where the gelatin is thick it will absorb a lot of dye; where thin, little dye is absorbed by the emulsion.

or an enameled or porcelain tray or dish. If the precise color desired in the print is not available in one of the pure dyes included in the set, any two or more of the dyes may be mixed together to achieve the hue desired.

You may, for example, be quite satisfied with the "flesh tone" dye included in the set—or you may wish to achieve a flesh tone which is a little warmer. In the first case you would use the dye "as is." In the latter instance you might choose to add a trace of red to it to achieve the warmer hue.

Dye is applied to the print with broad strokes of the brush, and at first little attention is given to following borders exactly. The only time when borders must be carefully watched is when one of the two areas involved has already been colored, and the second color is being applied. The masking lacquer can be used to protect an area that has already been colored.

As the color is applied to the print, the dye replaces the modeling agent in the relief image. The dye is quickly brushed onto the area to be colored, and then all excess dye is blotted away. By dipping the brush once more into the acid solution and rinsing the area just colored with an acid bath, the coloring is "evened out." Water is used in connection with dyes only when it is desired to dilute the intensity of the dye or whenever a weak reducing action is desired. The regular "reducer" included among the dyes is used only when it is necessary to "pick

out" a highlight or for some reason to remove all dye from some point.

It is impossible to add more color to a Flexichrome print than the emulsion or picture would absorb naturally. The intensity of the color in the print can be reduced, however.

It takes about two hours for an experienced worker to finish an 11 x 14 or a 14 x 17 print and make it appear as if it were an original color shot. However, there are pictures and pictures, and some take longer than others. A fall scene with lots of little specks of bright color will, for example, take more time to color than another photo which has larger masses and more continuous color tones.

Color transparencies can also be made by this process if desired. This is done by transferring the stripping film emulsion to a piece of fixed-out Kodak Translite Film or to a fixed-out glass photographic plate. A transparency of this type makes a beautiful, big display print for use in windows or in a darkened room.

Only one Flexichrome Print can be made at a time by this process. For each print a separate sheet of Flexichrome Stripping Film must be exposed, developed, bleached, dyed with the modeling agent, and transferred to a sheet of photographic paper. And each print must be colored individually. The coloring, of course, can be done at any time. The process offers so many definite advantages to the

Continued on page 112

A SIMPLE BACKGROUND, large areas of one color, and adequate shadow detail make this photo by *Walter Strate* good Flexichrome material. While fussy detail, such as foliage and print dresses, can be handled by the process, it calls for an expert colorist with boundless patience. Always a sharp separation between colors is needed.



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A WATER LILY, originally pic-
tured on a black and white pan-
chromatic film was made into
this colorful Flexichrome print
by the process described in
the preceding pages.



THE PHOTOGRAPHER liked
red flowers better, so the color
of the lily was changed to red.
This is part of the flexible con-
trol of this new color process.



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ZONE OF FOCUS

for natural pictures of children



LEFT, with your lens pre-set for a certain zone of focus, you can let your subjects romp at will within that zone, confident that they will be in sharp focus when you shoot.

BELOW, in less active situations, the zone of focus technique is equally effective. Simply give your subject a prop or a problem, then watch his face and press the button on the expression you like.

Photo: Mary Lowber Tiers.



When photographing children, whether for candid or portrait pictures, the youngsters must be as free and relaxed as possible if you are to avoid forced, static poses. A passing action or rapidly changing expression on little Johnny's face allows you no time to move in close, focus the camera, and shoot the picture. You must be ready to click the shutter on a split-second's notice!

The "zone of focus" principle makes it possible for you to keep your camera in readiness for the good shots when they come up in a given area, or zone, bounded by determined distances from the camera lens. The child can play anywhere he chooses in this zone, and you can be certain that the pictures you take will be in sharp focus. Or, to reverse the

process, you can determine the zone in which the child is playing, and adjust the camera so that details of all subject matter in that zone are in focus.

Supposing you want to make outdoor shots of children at play, using this versatile technique. Here is how you do it: First you set the lens aperture at F:11. That is your basic stop, and once set you don't change it. Second you set the distance scale at 25 feet. This, too, is a basic position, and once set you don't change it (except for close-ups). As for shutter speed, you'll have to determine that on the basis of light conditions with Super-XX film a speed of 1/100 sec. is safe on sunny days.

Depending on the lens you use, with these settings you can take pictures with the subject any-



MANY photographers carry their cameras pre-set for 10 feet at F:8 just to be ready for pictures such as this. Anton Souchi had no chance to re-adjust his shutter speed or diaphragm opening when he caught sight of a small boy cautiously approaching a deer. Just as the boy half-turned to shout, "Hey Mom, look!" Souchi clicked the shutter on the lad's expression.

where from 5 feet to infinity. Suppose you are using a 50mm. lens (commonly fitted to 35mm cameras). With the lens aperture at F:11, and the distance scale at 25 feet, you can take pictures of any subjects from 11' 6" away from the camera to infinity. Infinity as you probably know is any distance beyond 100 feet in "camera language".

Suppose you want to take close-ups. By a simple motion you convert your original setting to one for close-up pictures. Still using the 50mm lens, and the lens aperture F:11, you simply change the distance scale setting from 25 feet to 10 feet. Now you are set to take pictures in a zone beginning 6' 7" from the camera, and ending at 18' from the camera.

The zone of focus system works best with fast panchromatic films with pictures made in good outdoor light—but bright sun is not essential. Where light is poor, use F:8 instead of F:11 as a basic stop. Where the subject is moving at great speed, the exposures necessary with zone of focus are often too short—resulting in a blurred picture. In such cases it is best to use a range finder, larger lens aperture, and faster shutter speed. In making very close-up pictures, between 3 and 9 feet, the distance scale

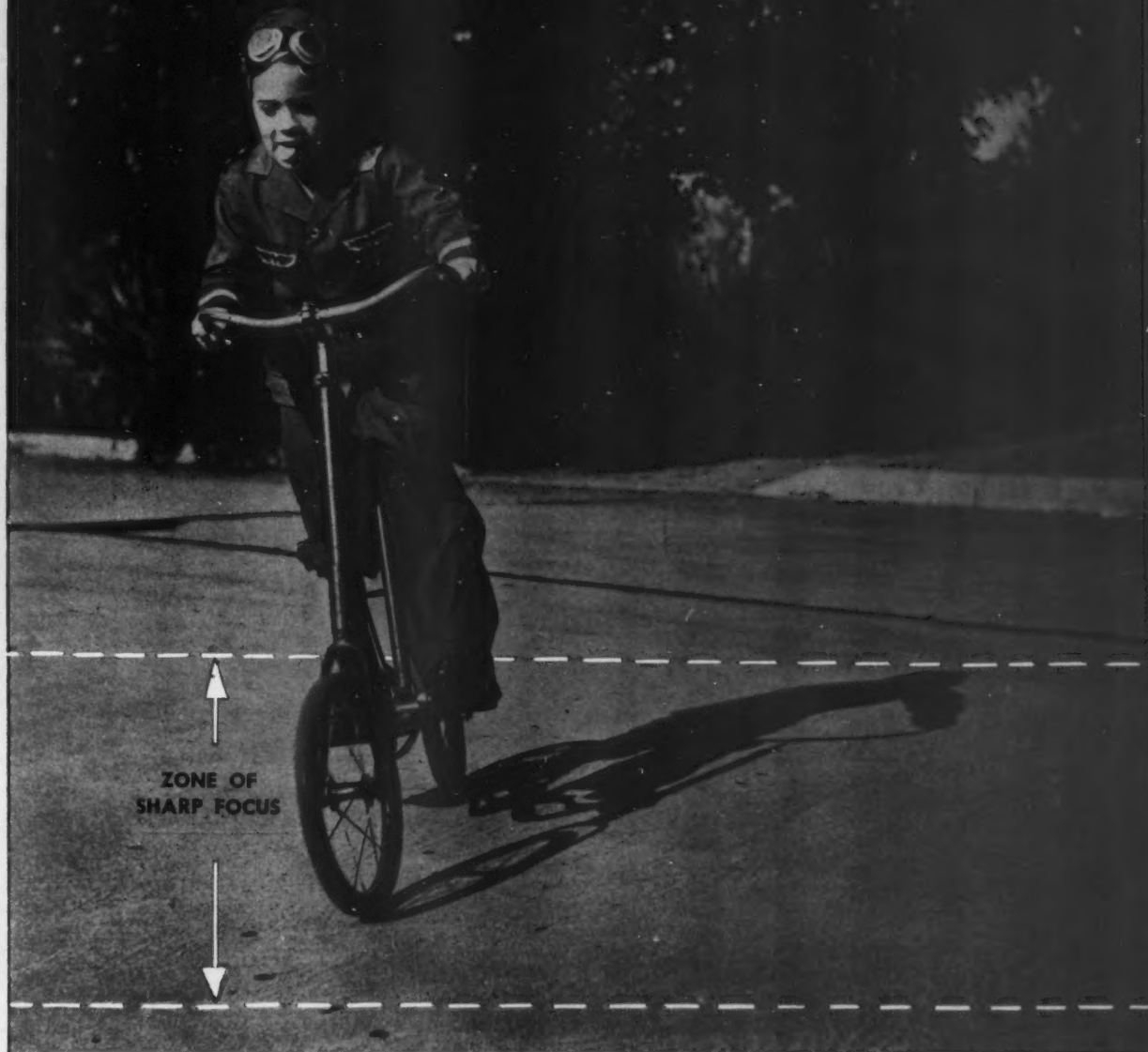
should be set critically for camera to subject distance. F:11 stop, however, is still used, since it insures an extensive zone of focus.

Zone of focus is actually a practical application of depth of field. As you know, depth of field refers to the range of distances within which details of the subject matter are sharply in focus. Generally speaking, depth of field *increases* when you increase the distance from camera to subject, or decreases focal length; and it *decreases* as you increase the lens aperture.

The big advantage of zone of focus to most photographers is that it reduces to a minimum the need for adjusting camera controls. This gives you more time to concentrate on your subject—and in taking children's pictures you need it!

The matter of keeping Junior's interest aroused while taking his picture is a problem. A solution is found in the fact that every child loves to play games. Next time you shoot children, try making a game of it.

Suppose you want a "character shot" of Junior being scared by the family cat. Ask him to act scared, and he won't know what to do. He may even insist



ACTIVE children, such as this boy on a bike, can be stopped in motion by the zone of focus technique. To make this picture, the photographer set the lens aperture at F:11, and the distance scale at 15 feet. This gave him a zone of sharp focus of about 8 feet, as shown by the dotted lines. Once the camera was adjusted, the photographer simply waited for the lad to ride into the zone, and adopt the right expression before making the exposure. *Photo: Anton Soucht*

that he isn't frightened of Puss, and be uncooperative. But if you present it to him as a game, saying that for the moment Puss is a big, ferocious lion, Junior may take on a fairly good scare pose, and you'll get your picture.

Youth and sunlight are almost synonymous. The best children's pictures, therefore, are often those

taken outdoors. A playground, a field in the country, or even a city park can provide an ideal background for your child photography. Using zone of focus, you can let the child roam about to his heart's content, confident that whenever he does something interesting the camera will be ready to take a good picture without any fumbling or lens adjustment.



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INDIANS of ECUADOR

PHOTOGRAPHS BY JOHN COLLIER, JR.

Over a cup of *café con leche*, in a patio in the town of Otavalo, Ecuador, my collaborator, Sr. Buitrón told the story of the awakening valley. In recent years the Indians had developed a highly successful textile industry, producing homespun blankets and wool suiting. With their profits they have bought even more land, built larger houses, enriched their native life, and proven to the world that Indians are not necessarily a block to progress, but can be instead industrious, hardworking citizens. This was the subject of our picture story—to record an ancient Indian culture which had successfully adapted itself to a modern economy.

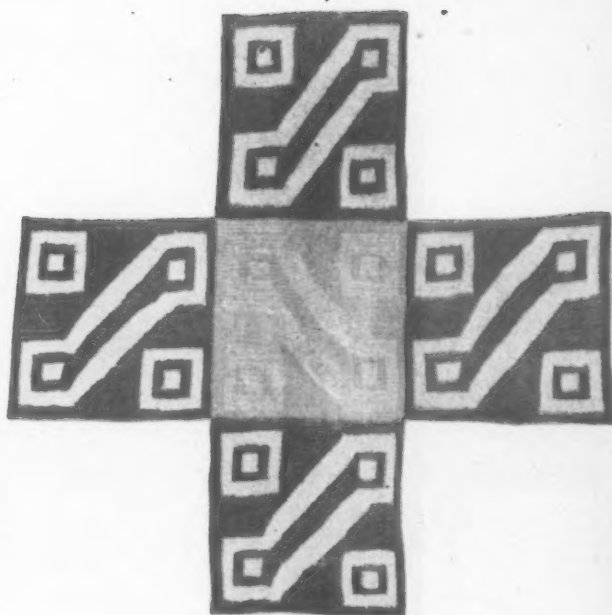
The photographs on this and the following pages are from the book "The Awakening Valley" by John Collier, Jr., and Aníbal Buitrón, published by the University of Chicago Press. Price, \$6.00

THE HAPPY
FACES of the Indians of the valley of Otavalo contrast to those of their less fortunate brothers in other parts of South America. *Left:* the worker is bringing home a huge bundle of reeds for weaving into mats, having just paddled across the lake on the same bundle. *Right:* evening in an Indian home in Ecuador.



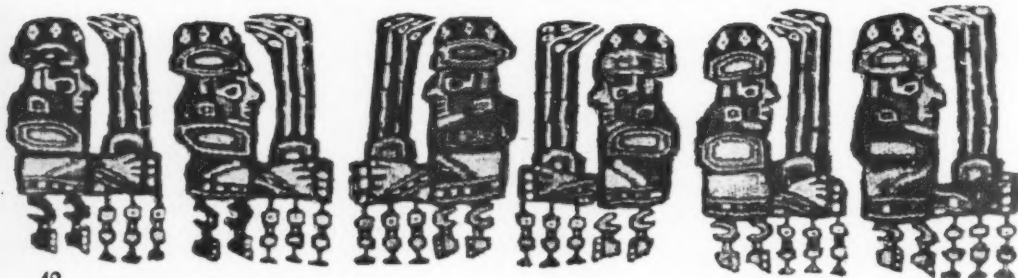
THE INDIANS of this valley are best known for their fine home-woven fabrics. On the opposite page, a native is washing the wool, before weaving, in a mountain stream. Below, the first sight that greets the traveler as he approaches the beautiful valley. In this high altitude the cloud shadows are crisp and the visibility is only limited by the mountains themselves.







AT SUNSET the herdsman brings his sheep and goats down from the mountain pasture.



IN THE weekly market
in the town of Otavalo,
a municipal policeman is on hand
to guarantee honest weights.
Whoever doubts the weight of a purchase
may check it on this official balance.



OTAVALO valley Indians were converted to Catholicism by the Spanish conquerors, four centuries ago. The most important Fiesta of the year occurs at the time of the summer solstice, and starts with a Mass in the honor of San Juan.



CORN is toasted over a little fire of corn stocks to make *tostado*, one of the staples of the Indian diet.





MANUEL smiles and his daughter smiles. He has been to the weekly market and the sales of his home-spun cloth were good. *Photo by Mary Collier*





A SOLAR HILL Ranger, Capt. Stropes, adjusts an inexpensive Ansco flash camera before filming an accident he had just been called to investigate. Pictures taken soon after accidents occur often reveal clues that are lost by the time a staff photographer can reach the scene to record it on film.



Police and Fire Departments use inexpensive flash cameras to record the facts at the scene

Spooks, the butler, admitted the police to the mansion, a gloomy pile of building five blocks south of the Battery. A man of more sinister appearance you could not ask to see. He had but one eye on each side of his nose. Alonzo Dean Baskerville was dead in his study. Oddly, all the doors and windows had been locked from the outside.

Thus begins a typical piece of nasty business to challenge the mental powers of a Sherlock Holmes, Philo Vance, or Hercule Poirot. It's always obviously murder. There is always a long list of witnesses to be questioned, and the solution is invariably found by mental acrobatics. In story-book crime, that is.

In today's *real* crime detection, the camera acts as an all-seeing, truthful witness, relieving much wear and tear on "the little grey cells." Photographs made with inexpensive flash cameras on low-cost film now help experienced investigators recreate the scene of the crime exactly as it was, and to prepare the evidence for court.

In virtually every state of the union, cameras are becoming basic tools of a policeman's kit, along with his gun, handcuffs, pencil, notebook, and badge.

ON THE SPOT

Many police departments have trained legal photographic investigators equipped with expensive cameras and accessories.

However, police commissioners have found that it is often not possible to get these legal photographers to the scene of every event at which pictures should be taken. Therefore, the trend is toward supplying many officers with inexpensive cameras.

For instance, the Evansville, Indiana Police Department has purchased 60 Ansco Pioneer Flash Cameras that are carried with flash bulbs and

FIREMEN pour foamite on a burning B-45 jet bomber, from which the pilot and three passengers escaped safely. A photographic record of the event, for study by military and civil aeronautics officials, is made with a flash camera while the plane is still burning.





PHOTOGRAPHY

film in each squad car. These units cost less than \$10 each, not including tax. Evansville cops can take pictures of traffic accidents and crimes immediately upon arrival, even before any of the persons or vehicles are moved, and without waiting for the regular police cameraman to bring his more bulky kit.

Snapshot cameras like these are so simple in construction that they can be used without making adjustments for exposure. The shutter is a pre-set automatic type and the lens has a fixed-focus from 6' to infinity. Police chiefs need give their men but little instruction in the use of these flash cameras.

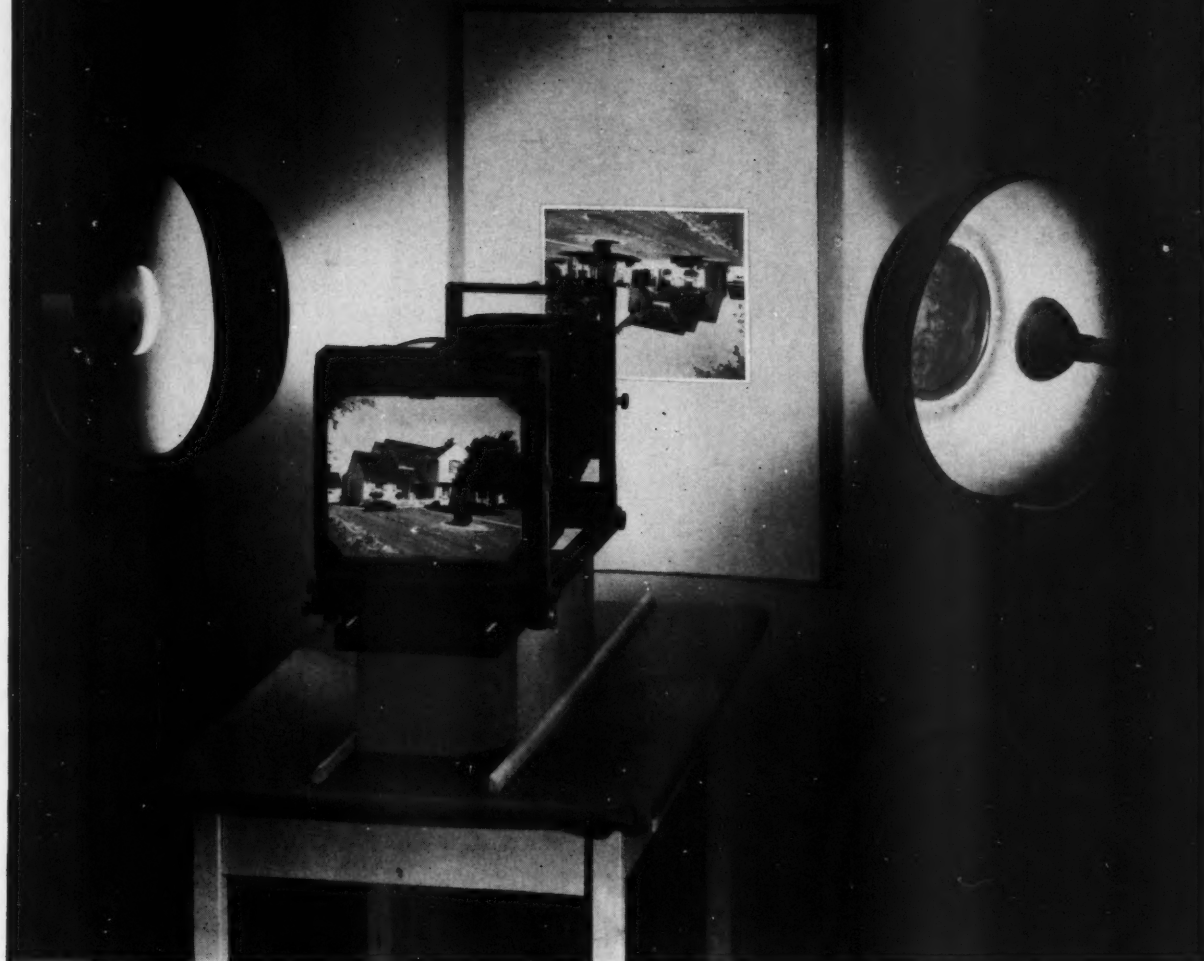
Continued on page 112

CAPTURED suspects in a bank holdup are caught by the police and the camera at the same time. While a patrolman frisks the trio, the photographer snaps a picture of the event.



A GUN BATTLE (above, right) between police and a crazed gunman. Flares set the house afire. Photos help train cops in tactical procedures in capturing criminals. Below, left: While two officers examine murder evidence, another records the scene with a camera. Below, right: A collision recorded by a camera. Photos of accidents are often used as evidence in coroner's inquiries; and later on in the court room they may determine the verdict.





Copies without glare

*a new technique in copying
uses polarized light to
eliminate surface reflections*

Sooner or later every photographer has someone say to him unexpectedly: "Hey, George, I was rummaging through a trunk in the attic today and came across this old picture of Aunt Kate. My wife wants to have it framed and hang it in the study. But the print is so crumpled, it looks awful. Could you make a copy of it for me—without all the creases?"

Motivated by friendship, or the prospect of earning a dollar or two, the photographer rigs a camera and lamp setup to make the copy. In the past, his efforts have often been not too successful.

The big problem is reflections, which cause severe loss of detail in the copy print. These reflections arise

from two sources. First, patches of light reflected upon the picture to be copied, by its surroundings. Second, light from the copy lamps reflected by the original and back to the lens.

The tendency toward the first type of reflection can be reduced by painting the easel black on which the original is mounted, and keeping the areas around the easel as dark as possible.

Trouble arising from light reflected by originals on the easel is ordinarily reduced by the complicated process of taking the picture through a hole in a large black card placed in front of the camera lens. A lens of long focal length is used, along with other precau-

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POLARIZED-LIGHT setup for copying, opposite, uses a Pola-Screen in front of the camera lens and two Pola-Lights. The old rule stating "less than a 45° angle between original and lamp axis" no longer applies, since specular reflections, even from metallic surfaces, are eliminated regardless of lamp positions.

tions such as narrow-angle lighting and placing the original with its long dimension at right-angles to the plane of the lights. And this works fairly well.

To save photographers all this fuss and reduce the strain on their nerves, a new system of no-glare copying for both black-and-white and color has been introduced. The essential ingredients are Pola-Lights and a Pola-Screen, made by Eastman Kodak Company.

With two of these lights, and the screen over the lens, the old trouble of surface glare is eliminated completely, regardless of the position of the lamps.

To find out just how well the new polarized copying works, a rather severe test was devised by Eastman researchers. First, a single-weight ferrotyped glossy photo print was crumpled into a tight ball and then flattened by hand. The result was a nightmare of broken emulsion. When a copy was made, despite the greatest care in lighting, the uneven surface reflected so much light that the resulting picture was hopeless. When the Pola-Lights were used, however, all reflections disappeared. After a little retouching to fill in the emulsion breaks caused by the crumpling, a satisfactory copy resulted.

An added advantage of copying with polarized light is its ability to minimize the surface texture of the original print. This permits the production of good copies without resorting to pans of water and other messy procedures. When it is desired to minimize surface texture, care must be taken, of course, to use balanced lighting and to avoid the long shadows cast by side-lighting.

By rotating the Pola-Screen over the lens, varying amounts of reflections are permitted to pass to the negative. The effect can be seen on the groundglass, or directly through the Pola-Screen at the lens. This control is valuable in reproducing certain oil paintings, engravings, pencil sketches, and other works of art where elimination of all reflections might produce a

copy completely different from the artist's original idea.

The Pola-Screen is in effect an 'optical slit' which transmits only light vibrating in the plane of that slit. Ordinary unpolarized light vibrates in all planes, polarized light in only one plane. The intensity of light already polarized, as by the Pola-Lamps, can be controlled by the rotation of the screen. Since in copying by this new method, the subject is illuminated by polarized light, the light reflected from the subject is also polarized. Reflections, therefore, can be controlled by rotating the Pola-Screen in front of the camera lens as described above.

Continued on page 110

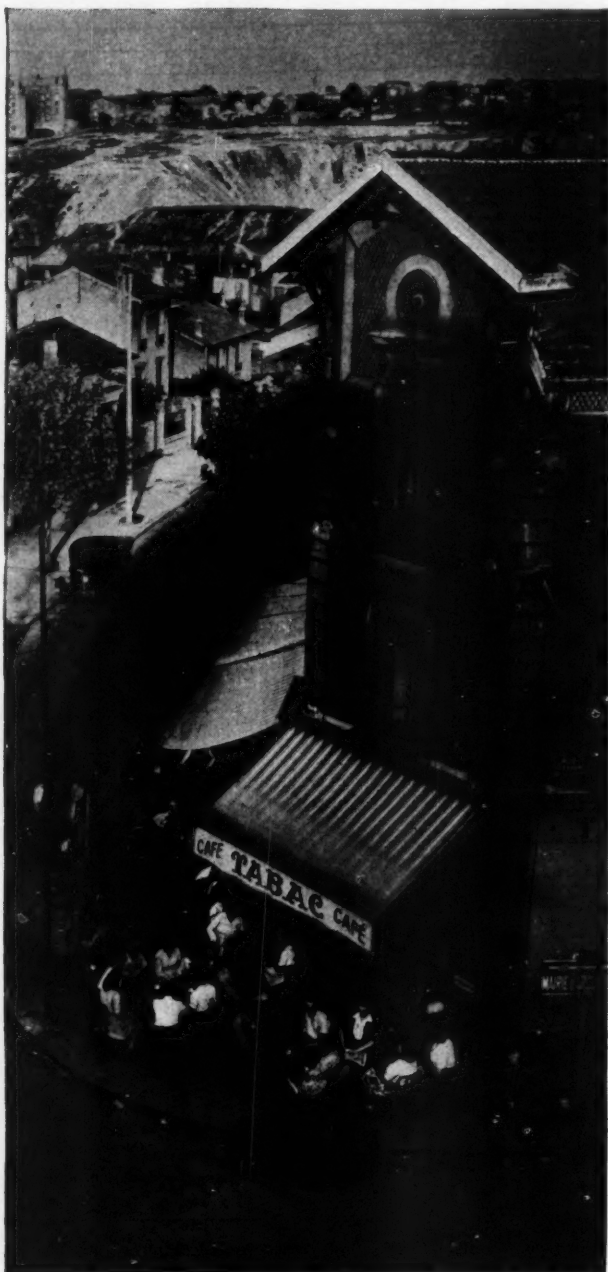


A TEST of the Pola-copying technique is demonstrated by the trio of copy prints reproduced here. A glossy print of the portrait was first crumpled into a tight ball, then flattened carefully. When copied by ordinary flood illumination, a completely unusable print was produced, far left, due to the bad reflections from its uneven surface. At near left is a copy made with Pola-Light illumination of the same crumpled original. After retouching the streaks formed by the broken emulsion, above, an entirely satisfactory copy resulted.

2

Paris photographers

by CHARLES RADO



The French essayist, Montaigne, writes: "I love Paris so tenderly that her spots, her blemishes, and her warts are dear to me." The same loving, sincere ideas that Montaigne expressed in words many modern French photographers are putting into their pictures.

One of the leading exponents of realism in French photography is Robert Doisneau. He began working as an industrial craftsman, soon switched to photography. During the war he took an active part in the French resistance movement. His first photographic success came with the pictures he made of the liberation of Paris in 1944.

An intuitive reporter with a sense of humor, Doisneau's photos have a gentleness and charm which soften, but do not sugarcoat, realism. "The photographer must be the eyes of the viewers of his work; he must show in his pictures what they would have seen had they been in his place," he says. This often results in pictures of a sort that only Parisian photographers seem to make: a combination of realism, an outspoken subject, and an unhappy message.

In Doisneau's pictures, which often appear in *Vogue* and *Life*, the zest for life transcends the ugliness of the surroundings, to result in very human documents. At present he is at work on a picture book about the people who live in the suburban industrial belt around Paris. These suburbs were built where the fortifications of the French capital during the Franco-Prussian War (1870-71) once stood. It was as a result of this war that the common people took arms against the aristocrats. The people who live today in this belt are similar to many of the characters Dickens wrote of in "A Tale of Two Cities." They are simple people: workmen, small businessmen, retired employees, and their families. Their homes are of depressing architecture. There are no parks and trees nearby, so that much of the beauty that characterizes other sections of Paris is lost to them. To the photographer who has a sympathetic eye for realism, the industrial belt of the French capital literally cries: "Look, this is what you want."

Text continued on page 55

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THE QUIET CONFIDENCE of this weaver at provincial Aubusson, from which many of the world's great tapestries have come, was captured by Robert Doisneau's camera; it reflects the character of the skilled artisans of France. Opposite page: Doisneau shows us from an unusual angle one of the many small cafes that dot the industrial belt of Paris. Here the laboring man can spend a leisurely hour with friends after work. These cafes provide the club life for the French worker.



A SIDEWALK CRITIC, studying an oil painting in a Paris art shop, provided Robert Doisneau with a picture that has just the right touch of subtle humor. Below: Brassai made this charming photo of ponies returning to their tent after a performance at *The Circus*, a year-round spectacle in Paris. Opposite page: Spain does not have a corner on bullfighting, as Brassai's portrayal of man and beast—with the bull in full control of the situation—proves. It was made at one of several bull rings scattered through France.

ALL PHOTOS FROM RAPHO-GUILLUMETTE







A FRENCH AUTHORESS, using an American typewriter, writes as she relaxes near the Seine. Picturesque stone walks, willow trees, and colorful people are pictured by Robert Doisneau in this glimpse of the easy-going way of life in Paris.

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Eye of Paris

Another Parisian photographer, Brassai, approaches realism from a slightly different point of view. Where Doisneau finds realism in the simplicity of everyday life of average people, Brassai seeks to capture it in architecture, patterns of lights and shadows made by bridges over the Seine, staircases, acrobats at the circus, and side-action at the bull fights.

Given the name, "Eye of Paris," by Henry Miller, Brassai holds a significant place in modern French photography. He is a leader of the school of cameramen that oppose any kind of romanticism in photography, may it be called photogram, solarization, mirror-distortion, or sandwiched negatives. These convictions have produced many arguments over an aperitif between himself and Maurice Tabard who represents the romantic school of thought in today's French photography. Both men contribute much of their work to *Harper's Bazaar*, and are good friends.

Brassai, who is a writer of poetry and an artist in addition to being a photographer, considers himself and others of his school the keepers of a great tradition that goes back farther than the invention of photography. He mentions, without pretense, among his spiritual ancestors Rembrandt (one of the first modern painters to do black-and-white drawings not as sketches for later color work, but for their own sake), Goya, Daumier, Ingres, and the early photographer, Atget.

Why Photography?

Recently, Brassai (whom Picasso considers one of the great "draftsmen" of our time) stated: "The invention of photography came at the right time to fill a two-fold need. In the first place, the upcoming bourgeoisie created a demand for portraiture too great to be taken care of by the painters of the time. Then, there was a need for technical devices which would make sketching—a favorite pastime—easier to do for the amateur. Photography came at a time when romanticism in painting achieved, with Delacroix, its first great triumphs. It was a much needed way of expression for counterbalancing romanticism with its pageant of colors and its emphasis on the personality of the painter.

"Basically, there are two routes by which an artist can approach the world of objects," Brassai continued. "He may accept the importance of the object (in which case the result will be classicism); or the artist may reflect the object in his temperament and imagination, and transform it to conform to his own personality (in which case the result is called romanticism, expressionism, or even surrealism)."

When Brassai speaks of the photographer's objectivity toward his subject, he points out that there are two different kinds of objectivities. To illustrate, he

Continued on page 114



PIERRE MATISSE sketches endlessly. Here he draws from a plant, while Brassai takes his picture by natural light. Sunlight through a window provided the interesting sidelight. Below: Every Frenchman apparently loves a garden. In spring, Parisians with even a tiny plot of ground spend a few francs for rose bushes and shrubs. Photo: Robert Doisneau.



Make experimental techniques fit the picture

BY JACK REYNARD

Originality in subject matter is priceless. If you have a negative unlike any other ever made, a straight print from it will stand out like a gold front tooth in a dental ad. Unfortunately, most of us have files that are crammed with negatives that are anything but original. They are subjects and scenes that have been photographed umpteen thousands of times before we got around to them, yet we value these pictures because they have personal meaning for us. We might even like to make enlargements of some of them if their subject matter were a little less commonplace.

One way to give an ordinary scene a new personality is to photograph it at a time of day or night, or under different conditions, than it is normally seen. The Empire State Building lighted by the glow of a burning skyscraper closeby, for instance, would be altogether different in its interpretation from the millions of snapshots made of it by day. Naturally this is a rather exaggerated example, but the same principle applies to any other subject. A close-up of your dog looking into the camera lens is just another picture of a dog looking into a camera lens. If you give your dog a problem, on the other hand, and photograph him as he finds his own special solution to that problem, you are likely to turn up with a completely original negative.

A second way to make a commonplace subject interesting is to give it the fillip of an unusual printing technique. The three accompanying pictures were good photographs to begin with—but they



TWO commonplace snapshots, above, were given completely new interpretative qualities by making diapositives from the original negatives (as explained in the text) so that each picture could be printed as a bas-relief. The circus clown, opposite, was originally photographed on color film. Solarization or reticulation techniques would have given still different results. Combining the color transparency and a diapositive black-and-white negative in the enlarger produced this result.

were more or less routine pictures of routine subjects. One goes to the circus and photographs the clowns, or he visits Niagara and photographs the falls. When he is finished he has pictures exactly like those he has seen in family albums and magazines since the days of Daguerre. The only way he can give these negatives a touch of individuality is by applying the magic of unusual negative developing or picture printing techniques.

Photographer Bob Milo chose bas-reliefs as the means of breathing originality into this particular group of pictures. The pictures of Niagara Falls and the statue were made on black-and-white negatives; the picture of the clown was originally an Ektachrome color transparency.

The first step in making a bas-relief of the Falls and the statue was to produce a *positive* copy-image

Continued on page 94

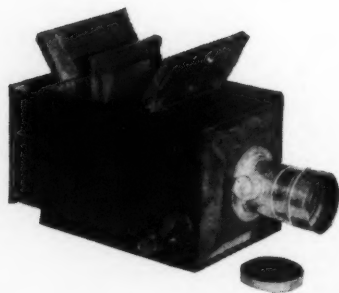




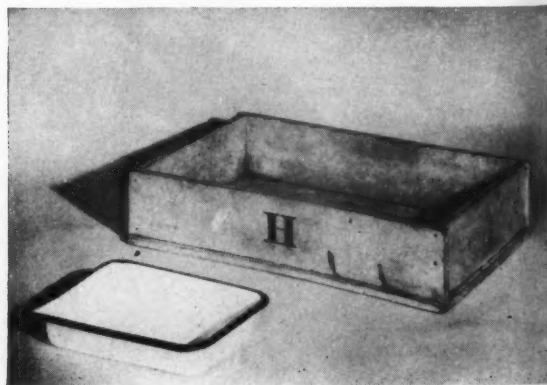
OUR

*how many of these
historic prints and objects
can you identify?
the answers are on page 96*

1 Glamour in Grandma's day. This picture of actress Myra Holme was made by the "Woodbury" type process, and appeared in Charles Dicken's magazine *The Theatre* (London). Can you tell within a decade when "Woodbury" type pictures were fashionable?



2 This Daguerreotype camera (left) cost a pretty penny in 1851. Made of rosewood and ivory, and equipped with a costly Holmes Booth and Haydens lens, it had only two focuses. One was accomplished by adjusting the lens tube; do you know how the other was achieved through the use of the lever?



3 Fox-Talbot originally used this wooden hypo tray in Laycock Abbey in 1839. A mate to this tray is on display in a large memorial museum of photography recently opened in New York State. Can you identify the museum and the city in which it is located?

PHOTOGRAPHIC PAST



4 "Preparing Moses for the Fair" is typical of drawings that were reproduced by photographic processes in 1883, for the purpose of illustrating ultra fine books. Can you identify the carbon process which many critics say produced the most beautiful photographs ever made?

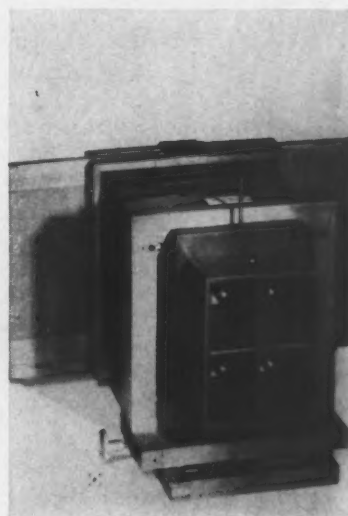
5 Making a candid indoor picture like this (right) in 1888 was a dangerous business. Many a photographer lost his fingers or eyesight when he touched off an infernal mixture of gunpowder and magnesium to furnish light. Do you know what early flash powders were called?



6 This gadget was the rage around 1851. Almost every portrait photographer owned something of this sort to satisfy the whimsies of his novelty-minded clients. Can you deduce how this contrivance worked and for what photographic purpose it was used?



7 Reputed to be the richest man and greatest mind in China, Secretary of State Li Hung Chang is also noted for a banquet he once gave in Paris. Have you any idea how Li Hung Chang and his banquet influence your gastronomic life to this day?



8 This four-eyed camera, circa 1870, had extremely sharp lenses protected by built-in shades. It made either 4 pictures of a subject simultaneously, or four different poses on each 5 x 7" plate. All negatives had to be developed immediately. Why?

ALL PRINTS AND OBJECTS SHOWN HERE ARE FROM THE BOYER MUSEUM OF PHOTOGRAPHY, CHICAGO. PHOTOS BY JAMES BROWN.

PAUL HIMMEL

*his grain
textures
become
a picture
element*

Text by
GEO. BERKOWITZ

Paul Himmel's ideas about photography will start a brisk argument between photographers anywhere.

"Photography is not an art form," he says. "It is a method of satisfying a certain commercial demand. A photograph cannot compete with art because photography is journalism. A photo states its message, then passes into history. Brady's photographs, for example, were marvelous for the time, but are solely of historical significance now.

"A photograph cannot equal nor compete with art such as Daumier's, for instance. Photographers today are frustrated because they have attempted to do in their medium what can only be done in an art medium—such as oils."

Himmel would be the first, therefore, to deny that his work is artistic. Yet, undeniably he makes use of art forms and principles. The grainy portrait of a young ballerina, on the opposite page, was inspired by the girl's resemblance to a Botticelli head and the grain was deliberately introduced to render a drawing quality to the photograph.

There is no doubt that the pictures of this young man of 35 are original, honest and immaculate. "Technique in a photographer is to be expected," Himmel says. "A photographer doesn't begin to be a photographer until his technique is behind him."

Himmel is a fashion photographer, a field that more and more seems to have

Continued on page 63

HIMMEL spent two days shooting the circus because he was fascinated by it. In order to take this shot, he had to enter the ring and mount his Rolleiflex on a tripod, because the exposure was a minute at F:22. *Right*, a study of Pat McBride, a ballerina with the New York Ballet, taken last summer. Himmel thought that her head looked like a Botticelli and wanted to see what would result photographically if he deliberately shot for grain with his Rolleiflex lens wide open.









an interlocking directorship with photojournalism. His method is to explore and experiment, to photograph his subject in a manner different than it has been photographed before. This attitude springs from his studies with Alexey Brodovitch, art director of *Harper's Bazaar*.

Born in New Haven, Conn., raised in New York, Himmel started commercial photography in 1945 after having taught biology and general science in New York City schools for six years. Amateur photography pursued him from the age of 16 through high school and City College of New York, but he used it only to aid him in studying the biological sciences and for an exhibit on East Harlem housing.

Slowly, he became dissatisfied with teaching and more interested in photography as the result of helping his wife, Lillian Bassman, then Art Director of *Junior Bazaar* and now a photographer with *Harper's Bazaar*.

Finally, he gave up teaching to take a job with the Plucer Studio, where he has been since.

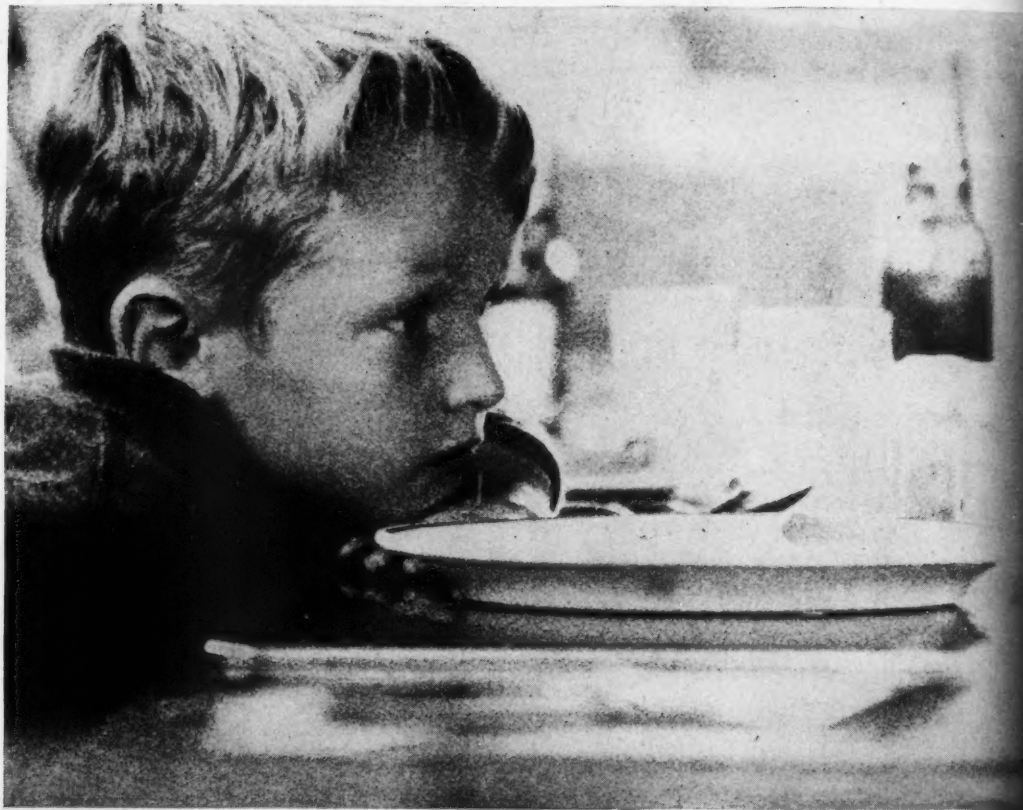
Himmel feels that many techniques in photography are accidental discoveries, often arising from experiences of the photographer in taking pictures as an adventure for himself. In shooting fashion he discovered that a certain type of movement could be controlled at various slow speeds, that a moving car made different patterns at different speeds as they passed behind the models. He applied this slow technique to the circus pictures, some of which are shown on pages 60 and 65.

His effort to obtain a soft picture quality resulted in the chance discovery that vaseline or glycerine on a lens will give such an effect unlike that obtained by any other soft focus method.

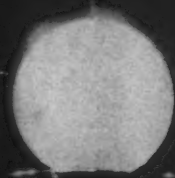
Now he is interested in the photojournalistic use of grain, long one of the supposed bugaboos of photography. The time has come for a change, he believes. Everything has been so smooth for so long, that grain (used correctly) can be one of the most effective techniques of modern photography. His photographs on these pages seem to bear this out.

RECORDING EMOTIONS, the sort of thing that the miniature camera does so well, Himmel made this photograph at an outdoor cocktail party with a Contax, 1/25th at F:2. On the left is Karen Radkai, of *Harper's Bazaar*. The girl on the right is Himmel's wife, Lillian Bassman.

FOR MORE HIMMEL PICTURES, SEE THE FOLLOWING FOUR PAGES.



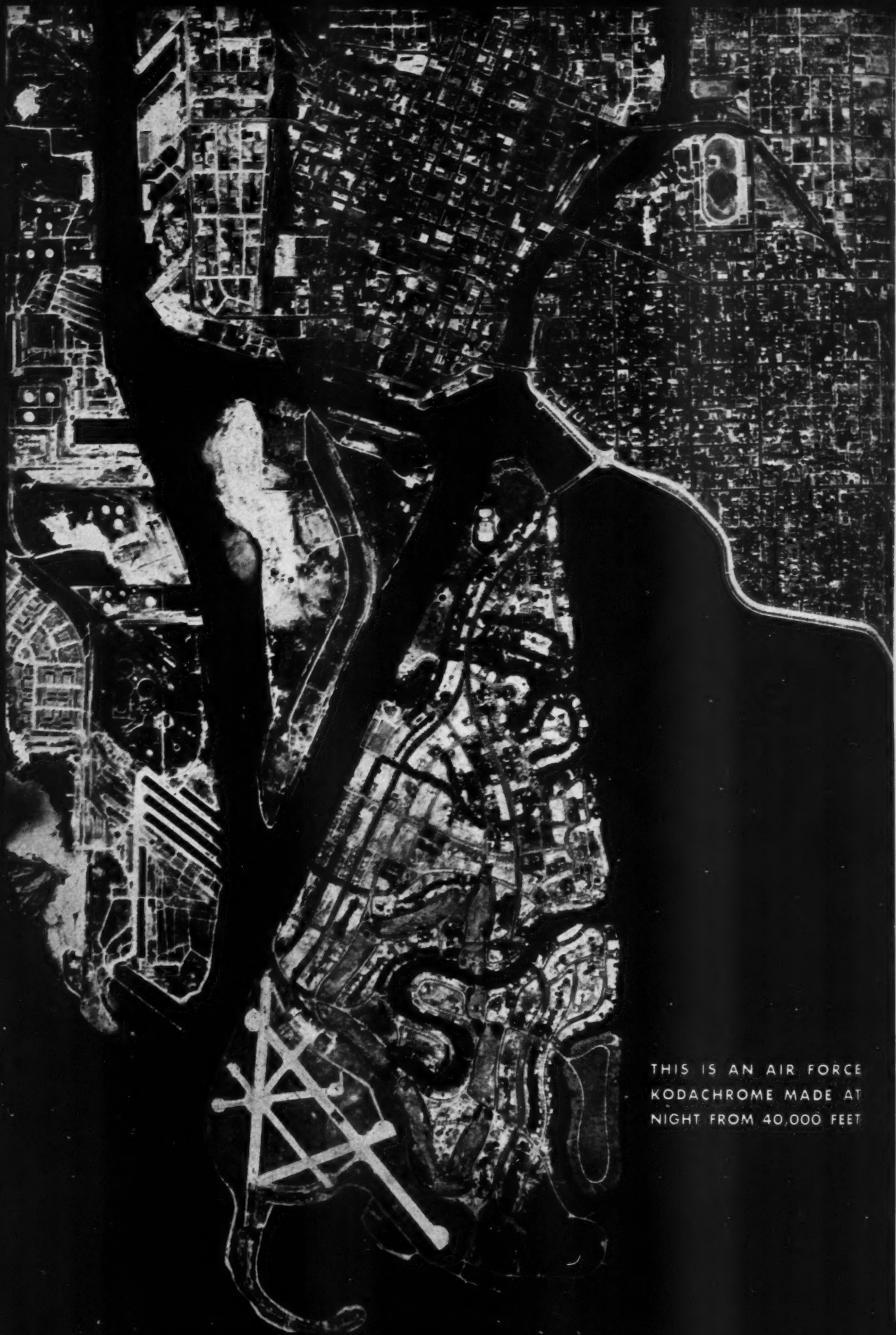
HIMMEL and his wife were sitting in a restaurant when they spotted this boy day-dreaming at the next table. Himmel didn't know if he had enough light, but shot anyway. He rested the Rollei on a cup and shot at 1/5 second, wide open. *Left:* while shooting the circus, Himmel decided he wanted to do a picture story of a clown making up. He selected this clown because of his dramatic face and the dingy dressing room. This terse shot typifies backstage life. The only light came from a naked and harsh electric light bulb. The camera was hand held, exposure 1/10 of a second wide open. *Right:* while watching Uno, a balancer with the circus, work about 10 feet above the sawdust, Himmel noticed how the metal disks spun and picked up light. He shot wide open for a minute with the Rolleiflex on a tripod. Himmel was close to the performer and this shot is a large blow-up of the negative. The picture is a good example of Himmel's technique in exposing for the action. Often his exposure is determined by the length of action. He sets his camera shutter at bulb and exposes as long as the action continues.





A NATURAL LIGHT photograph of Dancer Johanna Vischer, taken at the country place Himmel and his wife rented for the summer. Himmel liked the vertical composition. The boy in the background is Pat O'Neill, a young actor. He shot this for grain, exposing at a film speed 4 or 5 times beyond its rating and then over-developing for 5 minutes in a paper developer. The fragment of another negative made the same way—to accentuate grain—is shown above. The antique corset, right, was the inspiration for a Kodachrome, made just for fun. Himmel's wife was the model who submitted to the straight-jacket. The result was startling—a splash of color against a variety of pastel shades.





THIS IS AN AIR FORCE
KODACHROME MADE AT
NIGHT FROM 40,000 FEET

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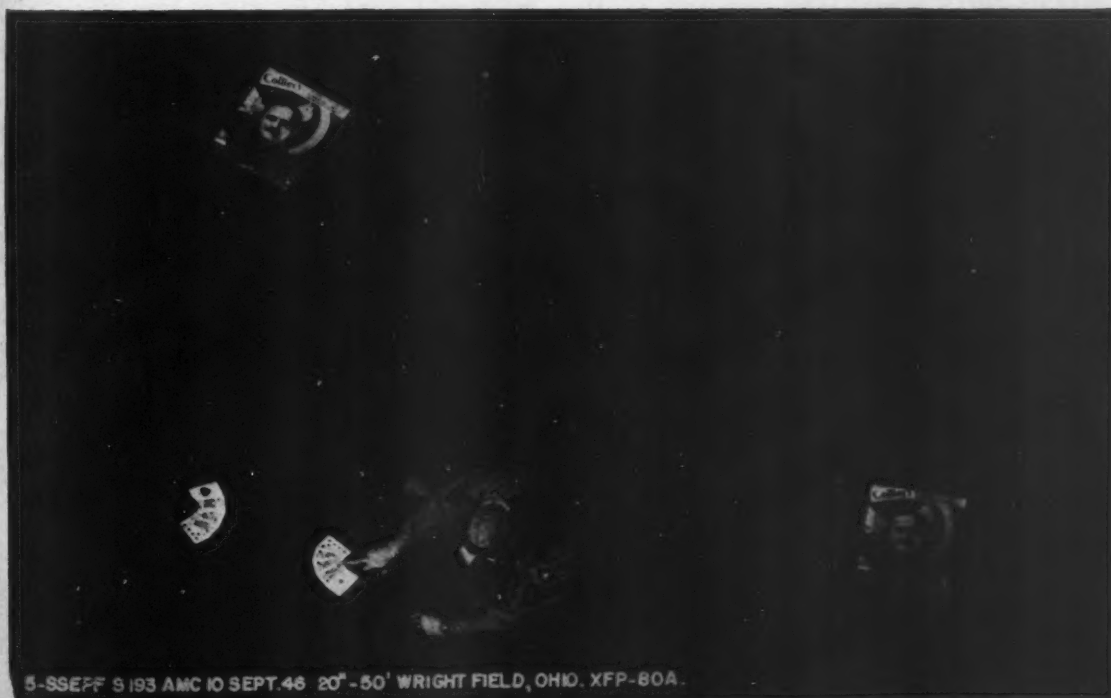
YOUR HOME TOWN IS PHOTOGRAPHED WHILE YOU SLEEP



Wherever you live—Rochester, New York; Detroit, Michigan; New York City; Tampa, Florida; or Denver, Colorado—some night, possibly soon, your picture in color and black-and-white will be taken while you sleep. Big B-17 and B-26 planes equipped as aerial photographic laboratories carrying flash tubes, flare bombs and new photographic cameras are winging their way through the night skies across the United States. During a series of blinding flashes that turn night into day, Air Force cameramen snap their pictures from altitudes of 2,000 to 40,000 feet. There is no damage to anything but the nerves of such of the local citizenry who happen to be out at 3 a.m. And anybody who is out at that hour probably deserves to be scared out of his wits.

These color pictures are being used not only to give the Air Force experience and know-how in highly important military night reconnaissance photography, but also the maps will be used by Census

MARKINGS on playing cards held by two soldiers are clearly visible in the original print of this experimental night aerial photo taken from an F-80 jet fighter, flying 300 m.p.h., at an altitude of 50 feet. Above: Three K-24 strip film night aerial cameras are used in unison on night aerial photo missions. Maj. O. G. Johnson checks them before take-off. Opposite page: Night aerial view of Tampa, Florida, photographed in Kodachrome with special flares. Railroad track ties are visible in the original transparency, but were broken down by engraver's dots in making the color plates. All photos from USAF Air Materiel Command.



5-SSEFF S 193 AMC 10 SEPT. 46 20° - 50' WRIGHT FIELD, OHIO. XFP-80A.



Bureau analysts to plot trends in farming and population shifting. Aerial photos help census-takers locate farm houses and study agricultural production. Many townships, villages, and even cities do not have up-to-date maps. It is impossible in such areas, for census workers to locate new farms, new additions to cities and so on. The aerial maps made at night will save both time and money in locating these properties. They will also be used by City Planning Boards to study traffic handling problems and zoning situations.

So accurate and detailed are the Air Force's maps that black-and-white photos taken from as high as eight miles above the earth show objects as small as the ties in a railroad track. Trained map readers can determine from these new aerial photos such valuable information as the size of a farm, probable number of horses, cows, chickens, information on farm machinery in use, crops raised, electrical equipment and many other factors.

Clear pictures are possible from planes flying at tremendous speeds. Not long ago, an F-80 jet fighter pilot took a night aerial camera and stroboscopic flash tube aboard his plane. Making passes over Wright Field, he spotted a pair of Technical Ser-

geants playing gin rummy on the ground. Flying in low, he snapped their pictures at 300 m.p.h. 50' above the ground. When the prints were developed you could clearly read the markings on the playing cards.

Why Night Aerial Photos?

During World War II, night aerial reconnaissance became a military necessity. In the Pacific, General MacArthur knew that Japs were transporting supplies over the Owen Stanley Mountains of New Guinea. In Europe, divisions of Nazi troops were popping up in new locations almost every morning. "How, and by what routes?" our military asked. Daylight movements of troops and supplies being a thing of danger, our enemies were shifting about under the cover of darkness. Allied military commanders then fretted because they could not penetrate the night with eyes that would see and report activity. Thus the urge for night military photography became more emphatic.

The problem was eventually tossed in the lap of an Air Force photographic officer, Colonel George W. Goddard. For over twenty years, he has been

LENSES used in night aerial photography are microscopically checked for defects prior to use by a technician in the Optical Lab at Wright Field. The big lens is a new Kodak Aero Ektar. Left: Loading a discharger with night aerial flash bombs from the waist window of a B-17. Below: Automobiles parked in a parking lot (note arrow) are clearly definable in this night aerial photo over part of Rochester, N. Y. This is a blown-up section of a negative made at 40,000 feet.



conducting experiments in night aerial photography to perfect suitable illuminants, films, and cameras.

Magnesium, with its rapid burning characteristics, and intense light, formed the basis for the early illuminant powders. Col. Goddard, and his co-

C. MORENF. JUN. 40 MANHATTEN FROM BROOKLYN-NIGHT VIEW SHOWING PATH OF PLANE DROPPING FLAM CARTRIDGES



workers, made many comical, and some near tragic tests with magnesium flares. Flare bombs hung from the plane by long tow cords exploded. Others didn't explode until they neared ground—causing brush and forest fires. Once a free bomb almost blew away the tail structure of a plane in which Col. Goddard was flying. Another time a faulty timing mechanism caused a magnesium flare bomb to explode near the sidewalk on Riverside Drive, New York. The con-

Continued on page 118

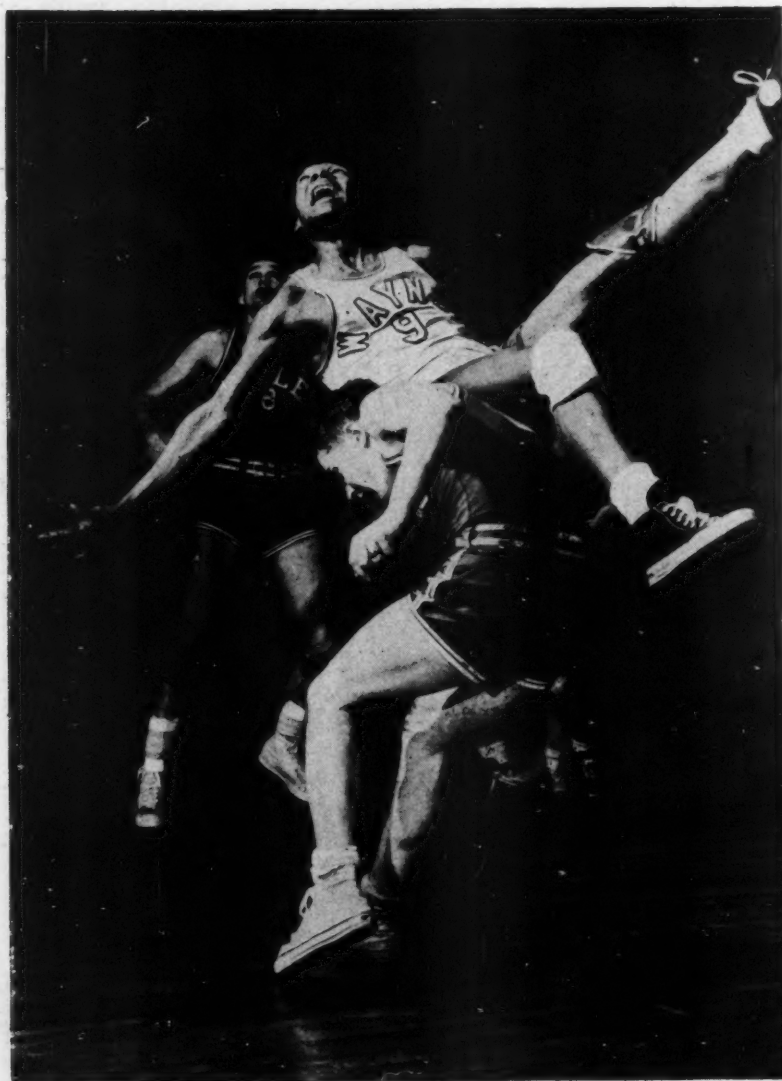
NIGHT AERIAL flare bombs exploding over New York City as seen from a Brooklyn window. Below: Ghost-like streaks made by lights in buildings and on the ground result when low altitude night aerial photos are made. These streaks would not be apparent in pictures made at a higher altitude. Note the tombstones in Manhattan's Trinity Churchyard.



BASKETBALL

To take good action pictures of a basketball game, a photographer needs a sensitive trigger finger and an alert eye, for he has to stop action in flight in order to capture the unpredictable moments that are the highlights of the contest. The impact of good basketball pictures lies in an expression of action or potential action, rather than in beauty of composition. Subject matter is the all-important factor. An understanding of the fine points of the game is

Continued on page 110



FLASH of one type or another is essential for freezing lightning-fast action on the floor. In the picture at the left, an ordinary flash bulb was used to record a tense moment when three players tangled in the center of the court. In the picture, opposite, made at Madison Square Gardens, electronic flash (Strobo-Lite) was used. Speedlights are sometimes admitted where regular flash is banned because the flash duration is shorter and is said to be less distracting to the players. The picture below, although made with flash, is typical of the human interest pictures that can be made without flash when a gym is well lighted and the subjects are motionless for a few seconds.



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LOUISE BARKER

3 HOURS IN CHICAGO

BY ROBERT FARR

Chicago is a huge department store of camera subject material, diversified almost beyond belief.

In this city, you as a photographer, can train your lens on the people who make a city. Here is a chance to record a city on film, with all its wickedness, joys, and jitters. There is romance, like lovebirds on a bench in Grant Park, and humor, on windy corners on State Street. Short skirts, men's hats and people's faces all have a behavior in the wind that makes them the grist of good picture material.

All of Chicago's major railroad stations have open sheds for trains. This is a break for the photographer, getting off a train. You can use the sky as a background for iron monsters spewing smoke as they chug to a stop, and sleek streamlined diesels purring loudly like huge satisfied kittens as they pull their cargoes in. Sunlight streaming through giant windows in Union Station, one of 7 in Chicago, produces interesting patterns in lights and

shadows in the waiting rooms. Then there are always such human interest subjects as lost children looking for their mothers, tired travelers catching forty winks on a hardwood bench, and weary porters loaded down with small mountains of luggage.

If you like landscapes, from the observatory atop the Board of Trade building, 525 feet in the air, you can photograph



The first of a new series of articles designed to point out subjects that will make interesting pictures to take home from visits to America's gateway cities.

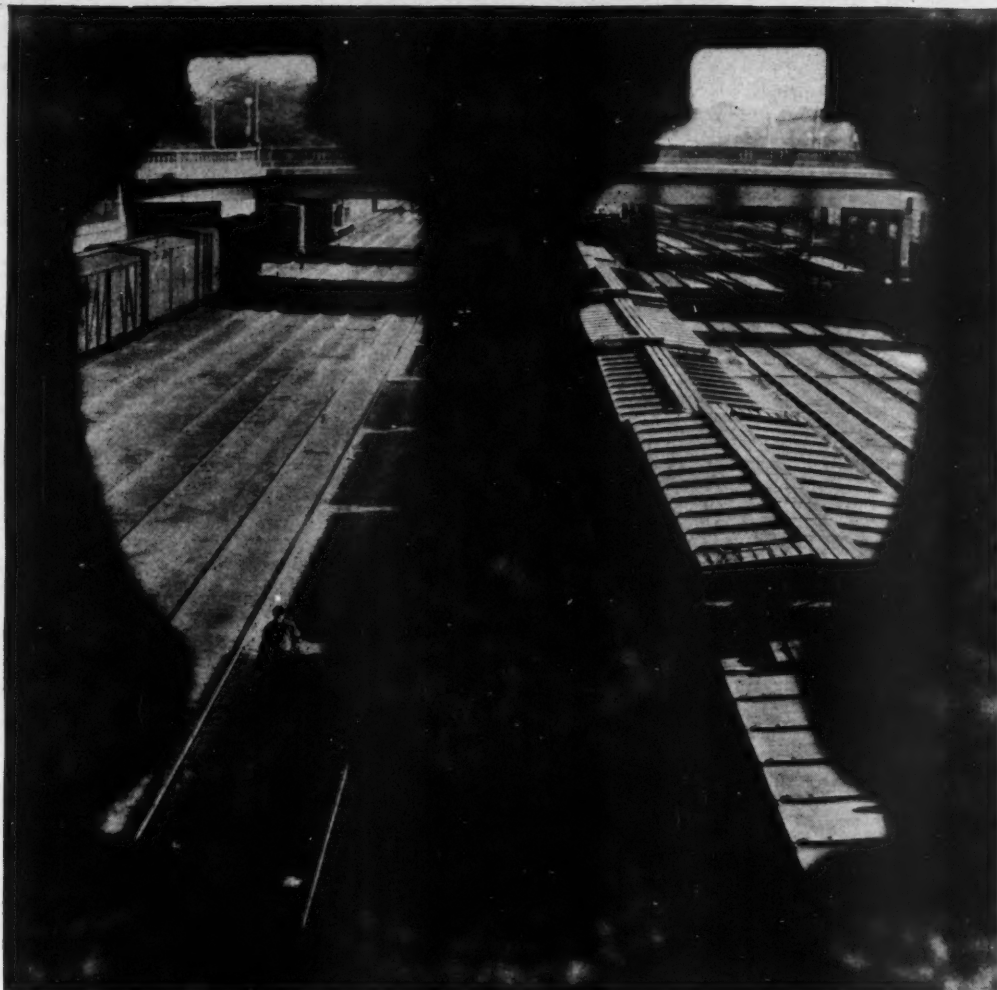


"STORMY, HUSKY, brawling, city of big shoulders"—so Carl Sandburg describes Chicago. This gateway city offers a wide variety of picture subjects to your camera. The patterns of a growing city, pretty dancers in night clubs, and crowds near State and Madison on a rainy afternoon are three samples. *Photos: Archie Lieberman*

four states on a clear day: Indiana, Illinois, Michigan, and Wisconsin. Good pictures have been taken from Chicago's highest viewpoint using a fast speed panchromatic film at 1/25th second, with a lens opening of F:8. To reduce or partially eliminate haze and fog both common to Chicago, a red filter, such as Wratten A, is necessary.

Downstairs in the Board of Trade building you can photograph the world's largest grain exchange in action any morning, except Sunday. Here are excited, sometimes pop-eyed, buyers, sellers, and brokers trading carloads of wheat, corn, oats, rye, and other grain crops. There is plenty of action, and a lens opening of F:3.5 at 1/100 second will enable





RAILROAD terminals and tracks criss-cross every part of the downtown Loop area. There is always plenty of action around the trains, and much of it is visible from bridges that cross the tracks. Below, "Bushman," the Lincoln Park Zoo gorilla provides a primitive portrait. You can take interesting pictures looking up at buildings, or looking down at the street from observation points like the one on the Wrigley building. *Archie Lieberman*

you to stop the action on a fast panchromatic film, from the visitors' gallery. No flash is permitted.

A few simple rules will help you keep your bearings in Chicago. Wherever you may be, Lake Michigan is always on the east. The two base line streets are State street (the great retail shopping center), running north and south, and Madison Street (the home of Skid Row), running east and west. If you are traveling by train, the chances are that you will

be departing from a different station from the one you arrived at. For example, through passengers for Los Angeles arriving on the Pennsylvania's *Broadway Limited* come in at Union Station, but leave for the west from Dearborn Station, 8 blocks away, on the *Santa Fe Chief*.

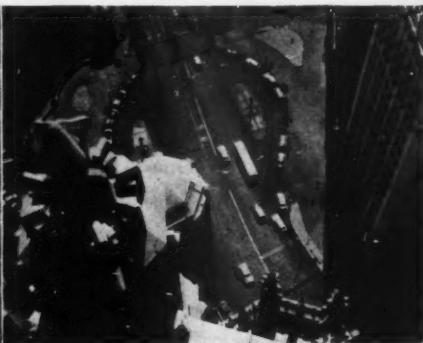
If you have an affection for public architecture, there are plenty of big buildings to film. North Michigan Avenue is nicknamed "Towerland" due



ARCHIE LIEBERMAN



RAE RUSSEL



R. F. RUPARD

to the presence of most of Chicago's tallest buildings concentrated in a few city blocks. The most prominent are the 36-story Tribune Tower and the 28-story Wrigley Building, across the street. Both are illuminated by bright flood lights at night. Up the street is the 37-story Palmolive Building, and the 44-story Medinah Tower (now Hotel Continental). Also on Michigan Avenue is the unique, military-looking water tower, an architectural novelty.

For size, the city offers the world's largest commercial building (The Merchandise Mart), and the world's largest hotel (The Stevens). The Merchandise Mart has $7\frac{1}{2}$ miles of corridors, 6,500 windows, and a population of 25,000 workers (greater than the population of many towns). It faces on the Chicago River, which has draw bridges that are raised and lowered every few minutes to allow canal boats to go through. A raised drawbridge, and the waiting line of cars on Wacker Drive, with the mammoth Merchandise Mart in the back-

Continued on page 122



PLACES TO VISIT in Chicago. Those indicated by numbers include: *Public Buildings:* (20) Art Institute, (64) Chicago Stock Exchange, (45) Post Office, (48) City Hall, (17) Public Library; *Railroad Depots:* (77) Aurora & Elgin Station, (78) Grand Central, (16) Illinois Central, (71) LaSalle Street, (75) Northwestern, (76) Union Station; *Stores:* (25) Carson

Pirie Scott & Co., (23) Marshall Field & Co.; Other markings point to theatres, hotels, radio stations, and so on. Visitors to Chicago desiring information may call *The Chicago Welcome* (Financial 6-4440), through whose courtesy this map is published. *Below*, in the Old Bohemia section, you can take such pictures as this one of a clothing hawker. *Archie Lieberman*



THIS EXPOSURE WAS WASTED WHEN THE SNOW SCATTERED.



COLOR SEQUENCES WITH ANY CAMERA

*How to simulate high-speed
action by selecting frames
from a roll of transparencies*

BY GLEN FISHBACK

It's sort of an ornery to assign "a snowball in the face" to a model as the subject of a sequence series of pictures to be taken with an ordinary still camera. A robot-type camera would undoubtedly be a lot easier on her, but trying to achieve the same effect with an ordinary camera not only requires the patience and intelligent cooperation of the model, but also requires a good portion of the same from the photographer.

If you lack fancy equipment but would still like

to shoot a sequence type of story in color, why not work out a series with the equipment you have? Once you settle upon a simple story idea to be told, the most important factor to consider is the casting of your model or models. There is no reason why you should limit yourself to the split second type of sequence. If you prefer a more leisurely approach, simply work out a story idea that requires a longer time span to complete the action. In either case, plan your action so that each picture will represent



3 THE THIRD SEQUENCE SHOT SELECTED FOR THE COVER.



THIS PICTURE WAS SPOILED BY TOO MUCH SNOW ON THE CHIN.

1 THE FIRST SEQUENCE SHOT SELECTED FOR THE COVER.



THIS ONE WAS REJECTED. TOO MUCH SNOW IN THE FACE!



about the same amount of time lag (and action) as that represented in the pictures before it. Remember that for a sequence to have good story telling qualities, it should have enough action to be intriguing, and be authentic enough to forestall possible criticism. Take enough pictures to make sure you have achieved your purpose, because this is one time when it is a lot better to have too many shots than to have to go back and reconstruct everything you have done just to get one or two missing links in your series.

In actual shooting, it is important that you be very thorough and precise in making your original exposures. I might even suggest that you keep an accurate written account of such items as the position of the model relative to the background, how she is dressed, the distance from camera to subject, an accurate record of all existing lighting conditions, exposures employed, and any other factors that might prove to be a variable if it were necessary to

Continued on page 108



2 SECOND SEQUENCE SHOT FOR THE COVER. A DIRECT HIT.



4 THE FOURTH COVER SEQUENCE SHOT. SNOW DROPS AWAY.

10 WAYS TO IMPROVE YOUR MOVIES

by ANTON SOUCHI

Amateur movie-making is about the closest thing to automatic picture-taking that one can get. Only the lens aperture needs adjustment for various light conditions. But automatic shooting does not of its own accord guarantee an exciting film that will hold an audience's interest when the projector begins to hum. If you want to breathe life into your films, give them the refreshing "lift" that comes with frequent changes of pace. Here are ten fundamentals that will make any film, black and white or color, more fun to make as well as to watch.



1. *Establish setting with a long shot*



... *make a smooth transition with a medium*

IF YOU WANT to avoid the monotony of "snapshot" movies use the simple continuity of the professional: a long, medium and close-up shot of each story-telling sequence. Think of your movie camera as an eye. It looks over the whole situation first, then selects a particular point to focus its attention upon. The intermediate or medium shot helps to keep the movement as you approach the final viewpoint, in a natural flow of action.

... *then move in for a close-up of the action.*





... a K-2 filter makes the difference
... without a filter



2. Use a filter to avoid washed-out skies.

WHEN YOU HAVE clouds in a sky it's pleasant to show them on the screen. A K-2 filter is an inexpensive accessory that makes a big difference in your black and white movie. It requires one stop larger lens opening (thus a picture normally calling for F:11 should be shot at F:8 with this filter).



3. Use angle shots to dramatize your subject matter.

IN THE PHOTO from a professional movie, above, the camera was at the foot level of the subject and aimed up. The proportion of sky to the aviator was increased to simplify the setting and to emphasize the idea of flight.



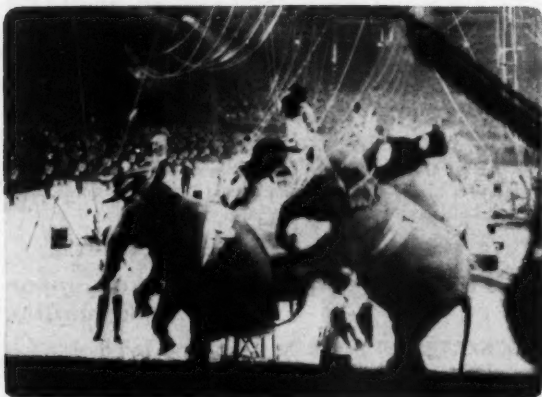
4. Watch for unusual composition opportunities.

THE SKATERS at Rockefeller Center have had thousands of feet of film wasted on them. Try a dramatic composition like this one if you want to give your travel films a visual impact.



5. Use a tripod whenever you can; with a telephoto lens it is a "must."

WITH A NORMAL lens it is difficult for many people to hold the movie camera absolutely still at the usual shutter speed of 1/30th second. Notice in the frame above (taken with a 1" lens on tripod-mounted camera) that the water glistens and the whole picture is crisp. The hand-held shot at the right has wasted the highlights and the water looks like cotton.



6. Don't be afraid to shoot in bad light.

WITH THE FAST coated lenses now being supplied on modern movie cameras and the fast films available, you no longer need brilliant daylight for moviemaking. This circus scene was shot at F:2 on Super XX. The grain problem isn't serious because the rapidly changing frames destroy the pattern which you see in a still enlargement.

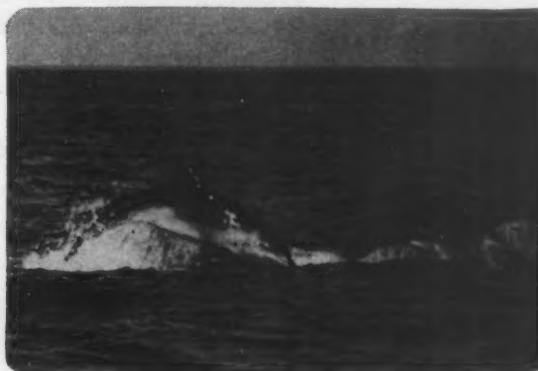
7. Make your "takes" long enough.

SHORT, CHOPPY sequences are hard on the viewer's eyes. For easy viewing, no takes should be shorter than four feet on 16mm or two feet on 8mm film. This gives about a four second screening time. You can count "1 and 2 and 3 and 4 and," or with the newer cameras there is a half-second pulse beat on the release button.



8. Use pans with caution.

THIS SINGLE frame blow-up shows why you shouldn't pan your camera on nearby subject matter—especially blondes. The projected film will be very little sharper than the individual frames. Pan slowly, and smoothly, and only if you can't cover the scene in some other way.



9. For sports shots, hunting and fishing— use a telephoto.

A TELEPHOTO LENS can bring distant specks up to screen-filling dramatic action like these leaping porpoises.



10. There's a secret to shooting in the noon-day sun.

THE GAUNT, hard shadows on faces from the overhead light can be eliminated by a little planning ahead of time. Try to get the baby over a light, colored area such as a side walk when you have to shoot at this time of day. Water, sand on the beach and snow make the best reflecting surfaces.

THE GARUTSO LENS

BY
LOU JACOBS, JR.



DR. STEPHAN GARUTSO, the inventor, and Dr. E. Goulden, the marketer of the new lenses.

Amazing depth of field is claimed for these new balanced lenses

Movie and television cameramen are now experimenting with lenses which may someday open the door to exciting new picture-making possibilities for still photographers. These are conventional lenses of various focal lengths that have been modified according to new principles discovered by Dr. Stephen Garutso after twenty years of research in the science of optics. It is claimed that the Garutso modification greatly increases the definition and contrast of images by reducing the vestigial spherical aberration of a lens. At the same time the lens is said to acquire an incredibly *deep field* of focus even when used at full diaphragm aperture.

Since the terms *depth of field* and *depth of focus* are often confused, it might be helpful to define them here.

Depth of field is the distance between the closest and farthest object that will be in focus in a given picture. In the conventional lens, the depth of field varies with the F-stop that is used; the smaller the diaphragm opening (F-stop), the greater the depth of field in which all objects will be in focus.

Depth of focus is the distance over which the film can be moved forward or back of the focal plane without causing circles of confusion of excessive size.

In describing the unique features claimed for the *Garutso Balanced Lenses*, we are primarily concerned with *depth of field*.

On the movie or television set, a great depth of field means that the emotions and actions of widely separated subjects can be photographed simultaneously with each subject in focus. Scenes in which foreground and background action are in focus have a third-dimensional quality (as you may recall if you saw the movie, *Citizen Kane*), but such scenes have in the past been extremely difficult to film. If the Garutso lenses fulfill expectations, the third-dimensional illusion can be achieved with ease at any time. Instead of the unbalanced lighting formerly required for photographing separate subjects with small diaphragm openings, the wide diaphragm openings used with Garutso lenses require only that a set be uniformly lighted. At the same time, the wide apertures will mean that scenes can be filmed under less in-

tense lighting conditions, and that the subjects can move about more freely. The danger of an actor being out of focus if he misses the spot which he is supposed to occupy when he moves about (and for which the camera has been prefocused) is minimized.

The freedom of action, third-dimensional qualities, and the economies that would result from having lenses capable of covering great depth of field of focus with large apertures, have long been appreciated. The Garutso lenses by no means represent the first attempts made to achieve this goal. In most previous attempts, however, one system of optics was usually added to increase the foreground focus, and another added for the background. In this scheme, secondary images were created which blurred the composite image in such a way as to render the system impractical.

Dr. Garutso's method for giving variable and extreme depth to conventional lenses is based upon technical principles that are much too complicated to explain here. Broadly speaking, the end result is achieved by adding special elements, each of which

has a hole in the center and is ground in accordance with the requirements of the particular lens being modified, and by respacing the existing elements in a lens. The additional elements correct spherical aberrations in the zones of the lens (usually around the periphery) where aberrations do the most mischief. The task of the additional elements is that of gathering and bending the light as a result of proper positioning and design. By making additional light available to define the image, they increase the objective's defining power as a whole, and at the same time help the existing elements to bring increased depth of field to the picture.

A commercial set of Garutso Balanced Lenses includes focal lengths ranging from 25mm to 75mm. As yet they are available only for motion picture and television work on a rental basis from E. Goulden, Inc., 5746 Sunset Blvd., Hollywood 28, California. Two motion pictures made by Lippert Productions, "Deputy Marshal," and "Apache Chief" have already been filmed with the lenses and are ready for release.

Continued on page 116

OLD Both pictures in this column are single frames from 35mm test films made with standard lenses. The actors were photographed with the standard lens wide open at F:2.8. The foreground actor was 3'2" from the camera; the other actor was 7' from the camera. BELOW, a 2" standard lens was used at F:11 with the girl in the foreground 5½' from the camera.



NEW Both pictures in this column are comparison frames from 35mm test films made with Garutso lenses. Notice the greater depth of field these pictures show with the lens still open at F:2.8, and the figures still 3'2" and 7' from the camera respectively. BELOW, the Garutso lens, stopped down to F:11 and focused at 5½', is sharp over an amazing depth of field.



VALLEE-

*You can get ideas for your
from Rudy Vallee's films*

In New York and fabulous Hollywood a new kind of independent picture studio has mushroomed into importance. It is the "movies for television" studio, which supplies good quality films for telecasting to replace the old westerns and dated features now being released to television by the big studios.

Of particular interest to the amateur moviemaker because of their rock-bottom production costs, these producers are turning out everything from short subjects to feature shows on picture budgets lower than the major studios ever thought possible. Although "The Life of Riley," one of the most successful weekly television films, is made with professional actors and cinematographers, it costs only \$2,800 overall. It is the most expensive tele-movie being made today. Western films and "Our Gang"-type features, running about 40 minutes, are being produced at a cost of \$150-\$300.

Typical of the new tele-movie producing companies is Vallee-Video, a firm organized by actor and singer Rudy Vallee. With studios in an old express company building near Hollywood, Vallee-Video is turning out three to five television movies a week, at an average total cost of around \$400 a picture.

Production costs are reduced by shooting most of the scenes outdoors, either in the parking lot adjacent to the studio, or "on location" in some section of Los Angeles. Sunlight, controlled by tin-plate reflectors and diffusion cloths, provides cheap illumination. Indoors, the studio uses standard photoflood lamps in reflectors.

Vallee started up his television studio using his personal hobby equipment. An amateur cinematographer for years, he owned a Cine Kodak Special, tripod, exposure meter, lights, accessory lenses, and so on. The first Vallee-Video films were made with this equipment. Subsequently, from the proceeds of rental and sale of television movies, he has purchased another Cine Kodak Special, and an Auricon 16mm sound-on-film movie camera that takes the picture and records sound at the same time.

Typical of Vallee-Video shorts is "The Cowboy Kids in Ghost Gulch," which was produced in one day of filming. Other pictures, like "Pansy the Horse at Home," "Albert, the Lion," "Nothing But the Tooth," and "Pinto Ben, the Story of a Pony," take from two days to a week to complete. In addition, documentary pictures, like "It Could Happen to You,"



and "It Pays to Exercise" (a series of setting-up exercise instructions) are being made at the rate of two and three shorts a day.

With a few exceptions, Vallee uses amateur and semi-professional talent. The youngsters playing the parts in "The Cowboy Kids in Ghost Gulch," were secured through a dramatic school for children. The kids receive \$5 a day for the work, which gets their faces before the public, and more important, the stage, radio and screen talent scouts. If professionals were used, the union scale wage would be nearly \$50 per child. These children are no more or less talented than the average youngster who has had a

Continued on page 109

VIDEO

home movies for television



"THE COWBOY KIDS" are coached by Rudy Vallee (above) in a musical number, just before it is filmed. The youngsters are Hollywood dramatic school students. One of the 23 pages of script used in filming the picture, called *The Cowboy Kids in Ghost Gulch*, is reproduced at upper right. The movie lasts 20 minutes, calls for 117 scenes with little dialogue, lots of action. Lower right: The camera crew prepares to film a scene on a rented outdoor lot. The Auricon sound-on-film camera is mounted on a tripod, with the microphone boom above the actors. On the few scenes filmed indoors, the camera is mounted on a dolly—the only professional equipment, aside from the Auricon, used by Vallee's company.

Pictures courtesy Vallee-Video.

80	CONTINUED	Kids on horseback and in wagons flash by fast.
81	MEDIUM - PRINT SHOP	Lookout and Parker go through secret door. Joe shoves paper strips off table alongside press onto floor, near kids. Then he walks to door, lights match with thumb-nail and flips it onto paper on floor.
82	C. U. OR INSERT	Match hitting paper shaving, igniting them.
83	MEDIUM - CAMERA ON CAR - ALONG ROAD	Shooting back on kids coming head-on at fast pace, grim looks on their faces.
84	MEDIUM - LONG - JAIL INTERIOR	Parker and Lookout are walking toward exterior door. Joe, who has just come out secret door, closes it, goes to the money, ties tarp, slings it over shoulder and starts for exterior. Stops, turns and looks back at secret door.
85	C. U. SECRET DOOR, FROM JAIL SIDE	Smoke is oozing out from cracks.
86	C. U. JOE	He gives a twisted smile and exits.
87	MEDIUM-LONG - ROAD - TOP OF HILL	Kids come into sight and start down.
88	JAIL - EXTERIOR - MEDIUM	The three men have just emerged and are starting across street when they hear something and look up.
89	TOP OF STREET - SAME AS # 21 - RAKING IN FROM SIDE TO SIDE	The kids wheel in and fill the street



photo data clip sheets for future reference

A GUIDE TO THE FLEXICHROME PROCESS



Complete List of Materials

for processing

1. Kodak Flexichrome Stripping Film
2. Matrix Film Developer
3. Acetic acid (glacial or 28%)
4. Flexichrome Bleach
5. Acid Fixer
6. Flexichrome Modeling Agent (black dye)
7. Flexichrome Transfer Sheet
8. Rubber squeegee
9. Dye Transfer Paper (for final support)

for coloring

1. Kodak Flexichrome Colors: Set of 12
2. Flexichrome Masking Lacquer
3. Flexichrome Print Lacquer
4. Flexichrome Lacquer Thinner
5. Flexichrome Blotting Paper
6. Slab of vitrolite glass for color-mixing palette

7. Assorted sizes of good quality red sable brushes

8. Container of water

9. Container of 2% acetic acid

Matrix Film Developer

Before development, soak the film in water at 66° to 70° F. for about 1 minute. The Kodak Matrix Film Developer is prepared for use in three parts according to the directions printed on the label of the container. Part A is the Developer, Part B is the Accelerator, and Part C is the Contrast Control Solution. Several degrees of contrast can be obtained by varying the proportions of the three stock solutions. The table below will serve as a guide.

2% Acetic Acid

To make the 2% acetic acid solution, dilute one part of glacial acetic acid with 49 parts of water, or one part of 28% acetic acid with 14 parts of water. This solution is used several times throughout the Flexichrome process.

for development to:	stock solution A	stock solution B	stock solution C	kodak wratten filter
1. Lowest Contrast	1 part	1 part	none	35
2. Low Contrast	1 part	2 parts	none	none
3. Medium Contrast	1 part	2 parts	1/4 part*	none
4. High Contrast	1 part	2 parts	1/2 part*	none
5. Highest Contrast	1 part	2 parts	1/2 part*	K1

*Pour Solution C into Solution A when preparing the working bath, and add Solution B just before use. For positive assurance that the solutions are thoroughly mixed, Solutions A and C are mixed together in a flask or beaker large enough to hold the total volume of developer to be used. Solution B is placed in a separate container, and the temperature of both solutions is adjusted to 68° F. just before development, Solution B is added to Solution A and C, stirred vigorously for 10 seconds and then poured into the tray. Note: The mixed developer oxidizes rapidly and keeps only a few minutes when exposed to air. It should therefore be used immediately after the solutions are mixed.

Modern Photography's

TIMETABLE for FLEXICHROME

A SCHEDULE of all the steps required in processing Kodak Flexichrome Stripping Film to make the black-and-white Flexichrome print is given in the table below. After drying, the gelatin relief image is ready for the Flexichrome Colors.

presoak the film in water at 66° to 70° F for about one minute

step	instructions	temp. in ° F	minutes step takes	total minutes so far
1. matrix film developer	Adjust for contrast control. Mix just before use.	68°	2.0	2.0
2. rinse	Discard oxidized developer. Wash film and tray with cold water.	68°	½	2.5
3. 2% acetic acid stop bath	Room lights can be turned on after film has been in acid bath about 30 seconds.	68°	½	3.0
4. hot water wash	Wash away soluble gelatin in several changes of hot water or with gentle stream from a hose.	110°	1.0	4.0
5. chill briefly	Immerse in cold water to chill swollen gelatin relief image.	60-68°	½	4.5
6. bleach	Bleach until all black silver has turned brown. Rinse briefly in water.	66-70°	1.0	5.5
7. fix	Fix twice as long as required for brown image to disappear completely.	66-70°	1.0	6.5
8. wash	Wash in running water.	66-70°	1.0	7.5
9. modeling agent (black dye)	Dye to completion with occasional agitation to prevent mottle effects.	66-70°	5.0	12.5
10. 2% acetic acid rinse	Rinse in 2 changes of 2% acetic acid to remove excess surface dye from image.	66-70°	1.0	13.5
11. 2% acetic acid transfer bath	Float transfer bath tray in a tray of hot water (110-130° F) until adhesive between surface layer and film support softens.	80-90°	1.0	14.5
12. transfer	Remove surface layer from film support in stripping bath and transfer to final support.		½	15.0
13. dry	Hang on line until gelatin relief image on surface is dry.			

a complete list of photographic schools

EACH YEAR, the editors of Modern Photography prepare a booklet containing the name, address, curricula and tuition of every school offering a photographic course in the United States. This year, the booklet contains the listings of 300 such schools, public and private. In each case, the listing was approved by the school's dean before we published it. A sample of one of the 300 listings follows:

SOUTHWEST PHOTO-ARTS INSTITUTE, 1709 Forest Avenue, Dallas 15, Texas. S. D. Myres, Jr., M. A. Ph. D. LL.D., Director offers instruction in Basic Photography, Commercial, Portraiture, Retouching and Natural Color for the beginners and advanced students. The Institute is chartered as an Educational Corporation by the State of Texas. It operates in fully equipped air-conditioned buildings. Both standard and advanced courses are available, as well as shorter, more specialized courses. Free catalog on request. Tuition fees include chemicals, rental on cameras, use of facilities and darkrooms. Paper and film are extra. The Institute is fully approved for the training of Veterans.

The booklet contains approximately 60 pages; there is also a list of all national photographic organizations, and photographic picture syndicates. As our contribution to the welfare of photography, this booklet is distributed to 10,000 vocational advisors in high schools and colleges. A few hundred additional copies are printed for subscribers who will find this information useful. Order from our Book Department, please. 25c each.

Book Department
Modern Photography
22 East 12th St.
Cincinnati, Ohio

☐ Send me _____ copies of "Photographic Schools for 1950" for which I enclose 25c each.

☐ Enter my one year subscription to Modern Photography for which I enclose \$3.50.

Name _____

Address _____

City _____

State _____

salon calendar

★ follows P. S. A. recommended practices

Closing Date	Name of Salon Date of Exhibition	For Entry Blank, Write to
February 4	★ 6th Canadian International Exhibition of Color Photography. Royal Ontario Museum Theatre, Toronto, Ont., Canada, February 27-March 1	W. J. Blackhall, Toronto Camera Club, 2 Gould St., Toronto 2, Ont., Canada.
February 6 slides; February 13 prints	★ Philadelphia International Salon of Photography. Free Library of Philadelphia, Philadelphia, Pa., March 4-26	Chantry W. Davis, 346 Penn Sheraton Hotel, 39th and Chestnut Sts., Philadelphia, Pa.
February 10	14th Rochester International Salon of Photography. Memorial Art Gallery, Rochester, N. Y., March 3-April 2	David F. Adams, Rochester International Salon, Memorial Art Gallery, Rochester 7, N. Y.
February 15	★ 4th Great Falls Salon of Photography. Public Library, Great Falls, Mont., March 4-12	Miss Elwis Cahalan, Box 1997, Great Falls, Mont.
February 15	1950 Shropshire Salon of Pictorial Photography. Borough Library and Museum, Shrewsbury, Shropshire, England, March 11-April 1	A. C. Wace, Shropshire Photographic Society, Greyhound Chambers, Butcher Row, Shrewsbury, Shropshire, England.
February 19	★ 19th Annual Boston Salon of Photography. Boston Camera Club, 351A Newbury St., Boston, Mass., March 19-26	Richard C. Cartwright, 87 Washington St., Milton 86, Mass.
February 20 and May 20	Photographic Society of America Color Print Contest.	P. J. Wolf, 354 Fort Washington Ave., Hawthorne, N. Y.
February 25	★ 6th San Francisco International Color Slide Exhibit. Museum of Art, San Francisco, Calif., March 11-18	Walter F. Sullivan, 351 Turk St., San Francisco, Calif.
February 28	4th Annual Greater Iowa Photographic Contest. Des Moines Art Center, Des Moines, Iowa, March 7-20	Iowa Development Commission, 708 Central National Bldg., Des Moines 9, Iowa.
March 11	6th International Salon of Photography. Norton-on-Tees, England, April 8-15	J. T. Marriott, 5, Grosvenor Road, Stockton-on-Tees, England.
March 15	2nd Washington, D. C., International Salon of Photographic Art. Corcoran Gallery of Art, Washington, D. C., April 2-May 7	Mrs. Lee Beiser, 3119 Second Street N., Arlington, Va.
March 15	14th South African Salon of Photography. Johannesburg, Durban, and Port Elizabeth, South Africa, May-July	Salon Secretary, P. O. Box 7024, Johannesburg, South Africa.
March 18	★ 5th International Exhibition of Photography. Port Colborne High School, Port Colborne, Ont., Canada, April 8-15	J. O. McKellar, 26 Tennessee Ave., Port Colborne, Ont., Canada.

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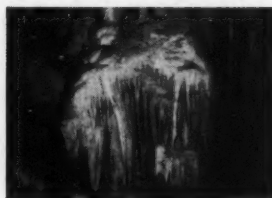
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Timpanogos Cave

100 feet, 16mm sound, Kodachrome
National Park Films Division of
World in Color Productions

John W. Evans has caught the beauty
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expert handling of Kodachrome. The
vivid colors present a gorgeous spec-



... Timpanogos Cave

tacle and the flower-like formations be-
come even more mysterious on film.
This is one of the United States Na-
tional Park Series, all of which make
good library material.

Two others in the series are: "The
Badlands, South Dakota," in which the
red hills of eroded clay form weird and
beautiful pictures; and "White Sands,
New Mexico," where, in 226 miles of
gypsum sand that looks like granulated
sugar, a footstep makes photographic
art. After seeing these films, the am-
ateur photographer will probably want
his vacation to include a chance to
shoot some of these wonders of nature.

In addition to the pure enjoyment of
viewing this Kodachrome series, there
is good opportunity here to study
professional technique applied to film-
ing straight scenery. A good plan is to
rent a number of prints and choose the
most appealing ones for a library col-
lection. They also make excellent gifts
for discriminating projector owners.
The films cost \$14.50 per hundred feet
in color and \$4.00 per hundred feet in
black and white.

Jose Iturbi

400 feet, 16mm sound, b. & w.

Official Films

A great deal has been written and dis-
cussed about the value of audio visual
instruction and the many educational
films made for various institutional
purposes. The limitless opportunities
for entertainment and education in the
home is sometimes forgotten in the
surge of professional uses of films.
There is film for the 16mm projector
owner to view and there is another
type for him to own. With all the magic

of a genie, it is possible for him to have
at his disposal a library of films which
include every subject; music, travel,
education and entertainment. In any
library collection there is a place for
fine music and Officials' new series of
Jose Iturbi's renditions is a very good
reason for owning a projector.

"Three Pieces for the Harpsichord,"
by Rameau; "Hungarian Rhapsody No.
11," by Liszt; "Sevilla," by Albeniz;
and "Fantasie Impromptu," by Chopin
are combined on two 400 foot reels
which will provide forty minutes of en-
tertainment for any type of audience.
Iturbi is not only a great pianist, he
is also a fine showman. To watch him
play is an experience second only to
hearing him. Nor are the piano selec-
tions in these reels necessarily "long
hair." The music, especially the Chopin
selection, is familiar to most people
even though the name may not be
recognized immediately. During the
first few minutes of "Three Pieces for
the Harpsichord," Iturbi offers a short



... Iturbi

explanation of the functions of the in-
strument. On this same reel he plays
Liszt's "Hungarian Rhapsody No. 11,"
on a modern piano.

To the piano student, these reels are
of considerable value, since Iturbi's
finger technique is emphasized; to the
rest of us they are an inspiring bit of
music that stays with us for a long time.

A Bully Romance

400 feet, 16mm sounds, b. & w.

Castle Films - Gandy Goose Series

In this Terry Toon cartoon, something
or other reminds Gandy Goose of the
time he fought and threw the bull in

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Bill Daniels



1948 Academy Award Winner for
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.....

Here's why BILL DANIELS prefers the BOLEX H-16

Automatic Threading: No need to use expensive magazine-loaded films. Bolex automatic threading eliminates all danger of imperfect threading.

Turret Head for Three Lenses: Accommodates standard "A" or "C" type mounts.

Tri-focal Tubular Viewfinder: With exact fields for 15mm, 1" and 3" lenses as standard equipment, viewfinder provides for absolute correction of parallax down to 18 inches. Invaluable for title and closeup work.

Critical Visual Focusing: Groundglass focusing for instant and accurate focus through the lens; magnifies image 10 diameters.

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Frame Counter: Accurate frame counters add or subtract automatically.

Footage Counter: Adds and subtracts accurately in forward and reverse.

Audible Footage Indicator: You hear a click with passage of each 10 inches of film.

Variable Speeds: Speed range is 8, 16, 24, 32, 64 and all intermediate. The governor maintains constant speed with the closest tolerance.

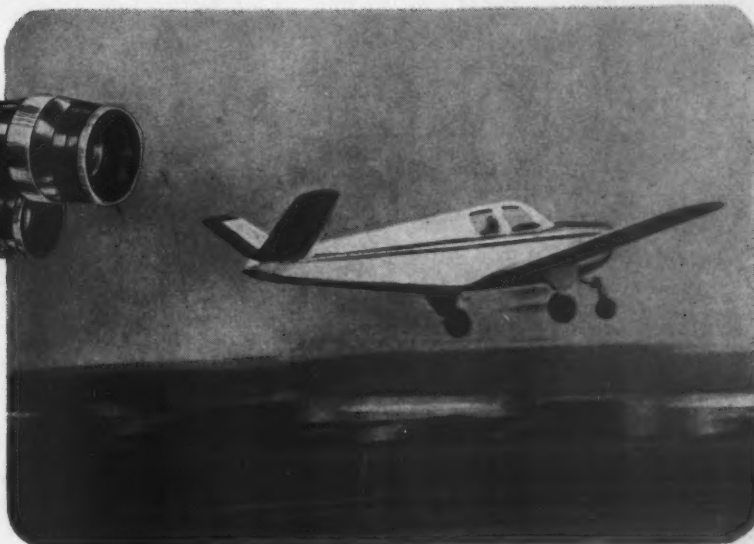
Hand Crank Operation: Either forward or reverse hand cranking is standard equipment. Speed is governor-controlled and any amount of film can be cranked in either direction. Dissolves, fades, tricks are easy.

Single Frame Exposures: Takes stills or animated sequences at 1/20 to 1/25 second exposures, or with "time" exposure.

Pressure Plate: Maintains firm, precise pressure on film, insuring rock-steady pictures.

Single Claw Operation: Designed to permit adaptation for use with sound film.

The Bolex is a precision instrument built like the finest Swiss watch by Swiss craftsmen.



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*KERN-PAILLARD LENSES are respected throughout the world for their consistent high quality. Available in Switar 1" f/1.4, Pizar 1" f/1.5, Yvar 15mm f/2.8 and Yvar 3" f/2.5. Note: The Switar 1" f/1.4 is as fine as any speed lens ever made for the 16mm field.

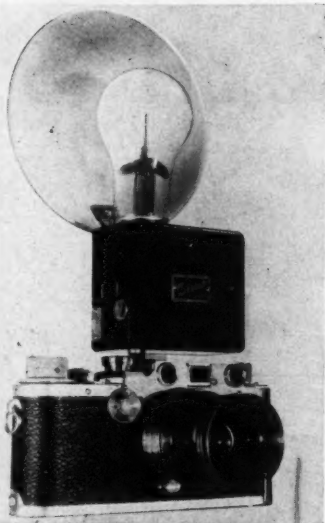


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Mexico. With excellent background music, Gandy reenacts his fine brave deeds with which he won the hand of a beautiful senorita. When the fair lady's father discovers his daughter dancing a wicked rumba with Gandy he calls out the bull which conveniently waits in the anteroom. From here on things happen for and against the valient goose until the bull is finally vanquished.

An excellent film for peppering up an otherwise serious program for children.

Jack Horner

400 feet, 16mm sound, b. & w.

Post Pictures

Robert Sherwood is the narrator for this story which dates back to 1536. It is another John Hix "Strange As It Seems" stories. When Henry VII ruled England, the Abbot of Cloustonbury sent his king a number of deeds to large estates. As a precautionary measure the papers were hidden under a pie crust. The abbot's messenger Jack Horner, on discovering this, "stuck in his thumb" and pulled out a deed for himself. His theft went undiscovered and the family of Horner is still in possession of the land. The film does not explain how the nursery rhyme came about, but the story of the abbot's messenger is the basis of "Little Jack Horner."

The Three Bears

400 feet, 16mm sound, b & w.

Castle Film

It is interesting to see how fairy tales can be modernized. If it fails to add to their charm, it does liven things up for the small folks who may be a little tired of the old fashioned Goldilocks who wanted nothing more than a hot meal and a place to sleep. In the modern version, Goldilocks is a precocious and destructive minx who, finding herself in the home of the bears, leaves a trail of chaos behind her. The three of everything is carried out to the extreme. Three radios, playing "Three Blind Mice," three cuckoo clocks, three cats, canaries, goldfish and pianos. On returning home the bears do not stop for the "Who's been sleeping in my bed?" of the old tale, but rush up their three stairways for revenge. Goldilocks escapes after a series of tripping, ducking and generally outsmarting the bears. In the end she is routed by a skunk, which accomplishes by his well known weapon what the bears could not accomplish by violence.

A lively cartoon for the very young.

Experimental Technique

Continued from page 57

(technically called a diapositive) of each on new sheets of film. This was accomplished in the darkroom by placing the emulsion side of the original negative in contact with the emulsion side of a piece of unexposed film. This was necessarily done without using a safelight, and a piece of glass was laid over the films to hold them flatly in position. Next a 40 watt bulb suspended three feet above the films was flashed on and off, and the freshly exposed film was then developed, fixed, washed, and dried in the normal manner. The duration of the exposure time is always worked out by trial and error for each individual positive-negative made because the density of the original negative, the type of film being used to make the positive, the exposing light being used, and other factors all contribute to variations in exposure time.

In making a bas-relief in the enlarger (or by contact printing) the original negative and the diapositive are taped together, emulsion to emulsion, so that the images of one are very slightly off-set or "out-of-register" from the images of the other. The amount of off-set between the negative and the diapositive will control the width of the lines which are formed around the various images. Once the original negative and the diapositive have been taped together, they are printed as a unit the same as you ordinarily print single negatives.

In the bas-relief of the clown, a black-and-white transparency was made from the original color transparency by the same method as described above, and the two were then taped together and printed as a unit.

Good contrasts in black and white are essential in making bas-reliefs, and heavy shadows should be dealt with carefully because all shadows are greatly emphasized by the technique. If a subject has clean-cut, simple lines, printing it as a bas-relief will oftentimes lend it a certain third-dimensional quality. If the subject is complex in its shapes and forms, printing it as a bas-relief will enhance its abstract qualities. Although Bob Milo was satisfied with straight bas-reliefs in printing these pictures, he might have given these same subjects still greater individuality by reticulating or solarizing one of the bas-relief negatives, by printing through a texture screen, or by toning the finished prints. The amount of individuality one should give a

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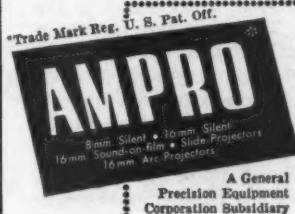
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print depends upon personal taste; the important thing is to figure out the kind of specialized printing treatment that is needed to give a commonplace subject a new lease on life.

Our Photographic Past

Continued from page 59

Answers to the Questions on Pages 58 and 59.

1. Grandpa knew a thing or two about glamour in his day; in fact, if you look around in the attic you may find this picture in a bound copy of a serial magazine called *The Theatre*. Published by Charles Dickens in London for many years, *The Theatre* was internationally famous for its beautiful photographic illustrations. This photograph of actress Myra Holme was made by the "Woodbury" type process and appeared in the February 1st issue for 1881. For a more detailed description of the "Woodbury" type process, see Beaumont Newhall's *History of Photography from 1839 to the Present Day*. (Simon and Schuster, \$5.00.)

2. This was an expensive Daguerreotype camera sold by Allen of Boston in 1851. The body was made of rosewood, the knobs were of ivory, and the costly lens was made by Holmes Booth and Haydens of Waterbury, Conn. The plate size was 3 1/4 x 4 1/4 inches, and since bellows had not yet been invented, the camera boasted only two focuses. One was accomplished by means of the lens tube; the other focus was achieved by turning the lever handle, causing a box to slide back and forth within an outside box. The exposure was made by removing the lenscap and counting seconds by saying "Mississippi 1, Mississippi 2," and so on for the required interval of time.

3. This is the original hypo tray used by H. Fox-Talbot in the Laycock Abbey, Wiltshire, England, where he introduced paper photography in 1839. It was secured for the Boyer Museum of Photography by a noted English photographer, Harold White, who discovered it in the home of Fred Bird, a lifetime employee of the Talbot family at Laycock Abbey. There were two trays at Mr. Bird's home, both of which contained onions that were being dried in the back yard. The other tray is now at the George Eastman House, Kodak Museum of Photography, in Rochester, N. Y. This museum has recently been opened, admission free, to the public.

4. "Preparing Moses For The Fair" is typical of the photographic copies

of drawings which were made in England in 1883 by what is known as the "Woodbury" type process. This process was extremely popular for many years for illustrating fine books—especially books of biography, folio books of art, and books of travel. The process was absolutely permanent and no copy has ever been known to fade with time. Many critics believe that no more beautiful photographs have ever been made than those produced by the "Woodbury" type carbon process.

5. This "candid" photograph entitled "Playing Cards At Home" was made in 1888 by means of the newly invented "Blitz-Pulver," a sort of gunpowder and magnesium mixture that was very dangerous to careless users. Many photographers were blinded and lost hands or fingers while using blitz-pulver, but it was sure-fire and was considered fine for "instantaneous photographs" at night.

6. This strange looking gadget is a multiple mirror used for novelty photography in the early days of portraiture in America. This type of mirror was extremely popular around 1851. Each convex mirror was set on an axis so that it could be focused in order to obtain fine reflected photos. I personally believe that this mirror arrangement was built to circumvent the Southworth patent for the multiplying camera. Later this was surpassed by using 4 to 24 lenses in a camera.

7. Secretary of State Li Hung Chang was reputed to be the greatest mind and richest man in China. While making a trip around the world, Li Hung Chang invented Chop Suey so as to be able to offer his guests a new experience in eating at a banquet he held in Paris. This photograph is from an 1876 issue of *The Far East*, an early serial in which the photographs used as illustrations were so thoroughly fixed and washed that they remain relatively unfaded to this day.

8. This is a Four Lens Anthony Camera, vintage 1870. It made either four pictures of one subject, or four different sequence pictures on one 5 x 7" plate. The lenses were "Darlots," made in Paris, and were as sharp as tacks. Exposures were made by opening the lenses and then holding a focusing cloth over the lenses so as to be able to close the shutter behind the cloth. Since the glass plates were coated with wet collodion, exposures had to be made while the plates were still wet, and developed at once. The exposures ranged from 3 to 18 seconds, and for outdoor photography a dark tent was required.

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Good Photography invites amateur and professional photographers to submit pictures for use in the Salon Section of the 12th edition of *Good Photography*. Entry blanks are not required; there is no limit to the number of entries that a contestant may send in. All prints accepted will be paid for at the rate of \$10.00 per picture. Pictures may be black-and-white or toned prints and should measure at least 8 x 10".

According to Robert Brightman, the editor, mounted prize-winning photos that have been shown in other salons and exhibitions are eligible to appear in *Good Photography's* Salon Section. Be sure to include name, address and technical picture-taking data on the back of each print. All material should be securely wrapped. Unused pictures will be returned if accompanied by a self-addressed, stamped envelope. Send your entries to Robert Brightman, Editor, *Good Photography*, 67 West 44th Street, New York 18, New York.

Religious News Service, 381 Fourth Avenue, New York 16, N. Y. advises us of the wonderful response it has had to its listing of photographic needs, and requests we inform readers of *Modern Photography* that it still has openings in its photo correspondents' corps. They need religious news photos from all over the country. Advise them if you are available for photo assignments.

They are also in the market for scenics, family groups, seasonal shots (fall and winter), children at play or prayer, Bible studies, Sunday school subjects and other church activities, as well as photos showing life and customs in so-called missionary countries of the Far East and elsewhere. Pay \$5 for each photo accepted. Must be good glossy 8 x 10 prints. Address inquiries to Photo Dept., Religious News Service, 381 Fourth Avenue, New York 16, N. Y.



Furniture Age, 4753 No. Broadway, Chicago 40, Ill. Monthly. Buys photos of good merchandising ideas in furniture stores, including furniture and rug displays, new stores, and attractive home furnishings departments in department stores. Payment varies.

Our Dumb Animals, 180 Longwood Ave., Boston 15, Mass., reports the opening of their Annual "Story-Telling" Photographic Contest. Amateurs or professionals may compete but entries will be accepted only from those who have taken the photographs. No pictures smaller than 4 x 5 will be accepted and the judges prefer 8 x 10 glossies. Entrants may submit as many pictures as they desire. Subjects must be live animals in their natural environment. Unnatural poses, or pictures of animals hunting, performing or in captivity will not be considered. Ingenuity in choice of subject matter and its composition count equally with photographic quality. Photographs depicting recognizable persons should be avoided unless full consent for publication is obtained. Prizes may be withheld until releases are obtained in such cases. Each photograph should carry full name and address of the sender and postage should accompany submission if entrant wishes his prints returned. Prizes: First—\$25, Second—\$15, Third—\$5. There are also ten \$3 prizes, ten \$2 prizes, and ten subscriptions to be awarded. Prize-winning photographs become the property of *Our Dumb Animals*, which reserves the right of reproduction at any time and in any manner. The publication, however, does not demand exclusive rights to such photos and the photographer may make such other use as he

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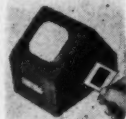
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Eastman Kodak Company, Rochester,
N. Y. announces its Fifth Annual
National High School Photographic
Awards. The competition opened Janu-
ary 12 and closes April 14, 1950.
Pictures made without professional
help by any boy or girl attending daily
any of the high school grades from
the 9th to the 12th inclusive are
eligible for entry. All pictures, how-
ever, must have been taken since May
7, 1949. Prints of enlargements may
be of any size up to 7 x 7 inches.
Prints need not be made by the en-
trant. All pictures must be unre-
touched black-and-whites; color
photos or pictures made from more
than one negative are not eligible for
entry.

Pictures entered in this competition
will be judged on their inherent in-
terest and appeal and the story the
pictures tell. As a result, snapshots
made with inexpensive cameras will
stand as good a chance of becoming
prize winners as those made with the
most advanced equipment. Students
in the lower grades will also have as
much of an opportunity to win as
upper classmen.

Pictures for the 1950 competition
may be made with any camera and
any make of black-and-white film.
Photos should be accompanied by an
official entry blank which may be
obtained from high schools, photo-
graphic dealers, or on request to
National High School Photographic
Awards, 343 State Street, Rochester
4, New York. Picture takers should
be prepared to send in negatives of
prize-winning pictures and releases
for publication of any recognizable
persons appearing in each photo. Pic-
tures may have been or may be used
in school publications such as the
school newspaper or yearbook, but
not elsewhere. Photographs entered in
other competitions or contests are not
eligible for entry in the National High
School Photographic Awards.

A booklet, "It's A Snap," which
gives hints on how to make good pic-
tures, is offered to students who wish
to compete for these awards or who
want to know how to make better pic-
tures.

The 1950 competition is divided
into four classes of entry. A first prize
of \$100, a second prize of \$75, and
a third prize of \$50 will be awarded in
each class. In addition, twelve special
prizes of \$25 each, 48 honorable men-
tions of \$10 each, and 264 honorable
mentions of \$5 each will also be given.
A grand prize of \$500 will be given
for the best picture entered.

The classes of entry are as follows:

1) *School Life*—For pictures of
the type the school yearbook or paper
could or should use . . . pictures of all
sorts of school activities (except sports
and athletics; see Class 3) in class,
in assembly, in social affairs, clubs,
school projects.

2) *Fine Art*—A special class for
pictures made with artistic intent. The
subject does not matter, but the
"handling" does. This is the class for
scenics in town or country, for archi-
tectural studies, for creative close-ups
of animate or inanimate subjects, for
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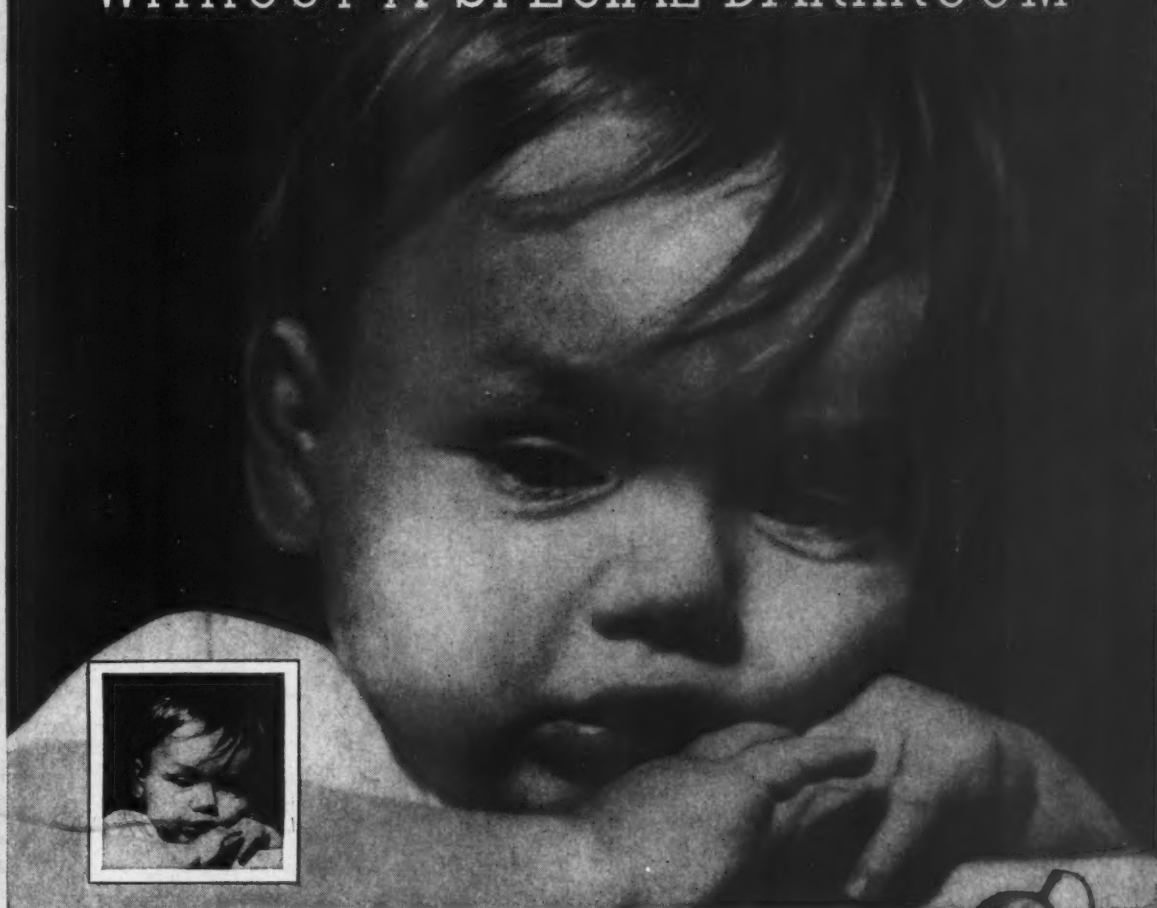
3) *Sports*—Pictures of sports and
athletics, *in school or out*, at the sta-
dium, in the gym, out at the town's
ball park, in somebody's table tennis
room, or the bowling alley, or out on
a sandlot diamond. Action shots, side-
line details, pictures of frenzied fans
. . . anything related to sports.

4) *Everyday Life*—For pictures of
life in the community *outside school*.
They'll show goings-on-about-town,
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babies, pets, and hobbies. They'll
show activities on holidays and in
camp; they'll show postmen, aviators,
traffic cops, clergymen—all sorts of
people, places, and things.



Scientific Monthly, 1515 Massachu-
setts Ave., N. W., Washington, D. C.
Does not buy photos for publication
in its magazine but conducts annual
international salon of photography in
science in cooperation with Smith-
sonian Institute, for which certificates
suitable for framing are given. Photo-
graphs are credited. Write editor for
details. A typical *Scientific Monthly*
cover is shown in the accompanying
illustration.

Make PERFECT Enlargements Like This WITHOUT A SPECIAL DARKROOM



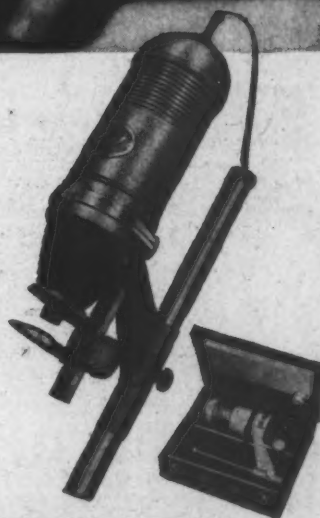
If you're cramped for space (and who isn't) here's the ideal enlarger for you . . . a precision-built Federal *Store-Away* that folds compactly into a case no bigger than an overnight bag.

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sets up in a jiffy . . . folds down just as fast when you're through.

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Illustrated: Federal *Store-Away* Junior Model 269 for negatives up to 2 1/4 x 3 1/4. Complete with Decar F6.3 Anastigmat Lens . . . \$39.50 Tax included. Carrying Case \$6.95.



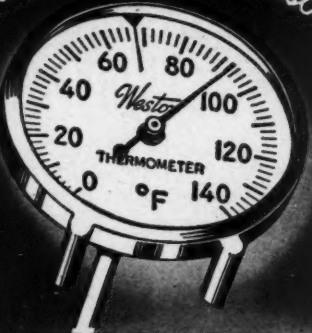
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new products

Budget Slide Projector

"A home projector... designed for the amateur... for library, den or game room," says S.V.E. about its new low-price (\$27.75) 2x2" slide projector, called the "Slidette-150." With color slide projection fast becoming the popular indoor sport, this new offering by an old-line manufacturer should interest many who have hesitated joining in before because of the expense involved.

Attractively streamlined and finished in chrome and morocco brown, the Slidette-150 is small (7 1/4-inches high) and weighs less than 3 lbs. It uses a 150-watt lamp with a condenser optical system and is furnished with a 5-inch achromatic lens. Natural ventilation cools the lamphouse, while a condenser of heat-absorbing glass assures against film damage due to heat even when a slide is projected for an indefinite period. Equipped with a



specially-designed horizontal slide carrier, the projector covers standard double-frame 35mm and full Bantam frames. A readily removable outer and inner lamphouse gives quick access to the inside of the projector for cleaning optics or changing bulbs. Also provided is an elevating clamp screw for tilt adjustment.

SOCIETY FOR VISUAL EDUCATION
100 EAST OHIO STREET
CHICAGO 11, ILLINOIS

Multiple Cut Film Hangers

To economy-minded professionals and amateurs in a hurry, the new Carr multiple hangers for developing cut film should prove real savers of time and solutions. One is a four-place 4 x 5" multiple hanger and the other is a two-place 5 x 7" hanger. Both can be used in any standard 8 x 10" tank, permitting simultaneous development of 4 x 5" and 5 x 7", as well as 8 x 10",

cut film in one tank with one batch of solution.

Made of stainless steel, the new multiple hangers have a polished finish



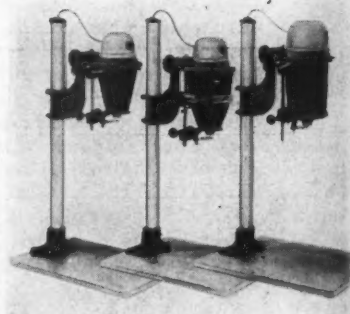
and are equipped with the same holding device, the Carr "magic clip," as used on Carr standard hangers. Special cut-away corners on the hangers assure maximum drainage. The 4 x 5" size is priced at \$3.96 and the 5 x 7" size at \$2.43, including Federal Tax.

CARR ASSOCIATES
8637 W. WASHINGTON BLVD.
CULVER CITY, CALIFORNIA

DeJur 'Koolite' Enlargers

"Cold light" is here to stay; or so it would appear from the number of enlarger manufacturers that now incorporate this type of light source in one or more of their models. The latest among popular enlarger makes to turn to cold light are the DeJur Versatiles, now available with DeJur's version, called "Koolite." Like others, Koolite uses a tubular grid lamp operating with a cold cathode (not to be confused with fluorescent lighting). It operates on 110-volts AC, drawing 30 watts power.

The new light source provides, of course, diffusion illumination, and takes the place of the standard condenser illumination system. Some of



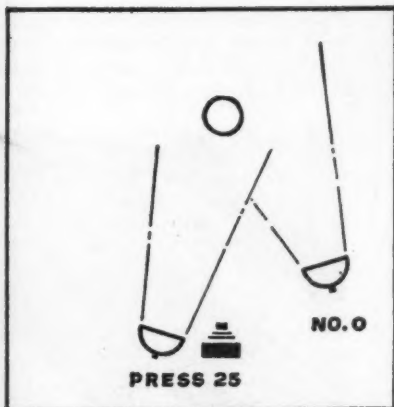
the features claimed for Koolite: starts instantly, at flick of switch or timing device; no discoloration during life of

WHY AND HOW

this picture was made with *SUPERFLASH!*

With St. Valentine's Day around once more, many fans will once again start tripping shutters to get a picture or pictures of their favorite sweetheart.

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In the portrait above the subject was posed somewhat more informally than the conventional pose. As the diagram indicates, one Superflash Press 25 was used at camera, a bit to the left as a fill-in. The No. 0 Superflash was held high and to the right, highlighting the hair and helping to model the face.

A fast pan film was used at $f/11$, $1/100$. At the most "natural" moment, fast Superflash bulbs are ready to go to work, eliminating frozen expressions, fidgeting, blinking.

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lamp (estimated at 10,000 hours); uniform printing speed even with wide variations in line voltage; color temperature balance permanently maintained; covers entire negative evenly, without hot spots; high printing speed; maintains a constant temperature at about that of the human body.

The new Koolite enlargers will be priced the same as DeJur standard models: Versatile Koolite I, \$129.50; Versatile Koolite II, \$99.00; Versatile Professional Koolite (4x5"), \$179.50, Federal Tax included. In addition, Koolite heads are available as accessories for previous DeJur Versatile enlargers, priced at \$18.75 for models I and II and \$28.75 for the 4x5" Professional enlarger, Federal Tax included.

**DE JUR AMSCO CORPORATION
45-01 NORTHERN BOULEVARD
LONG ISLAND CITY 1, N. Y.**

For Bigger Screen Images

Movie enthusiasts who have only limited space for showing films may want to look into the new Projex wide-angle accessory lenses for both 8mm and 16mm projectors. The lenses are made by the Projection Optics Company of Rochester, N. Y., manufacturers of long-throw 35mm lenses for motion picture theater use. Available for most popular makes of projectors, the Projex Jr. (for 8mm) more than doubles the projected screen image, while the Projex Sr. (for both 8mm and 16mm) quadruples picture size. The Junior model is priced at \$9.95 postpaid and Projex Sr. at \$12.95 postpaid from . . .



**SPIRATONE
32-34 STEINWAY ST.
LONG ISLAND CITY 3, N. Y.**

Kodak Auto Release

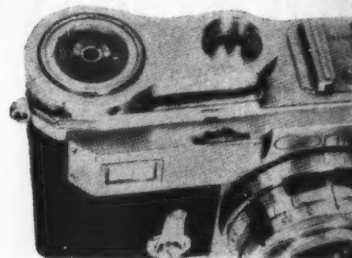
A handy little gadget for cameramen who like to get into the picture themselves occasionally has been announced by Kodak. Called the Kodak Auto Release, it operates with a cable release to trip the shutter automatically after a predetermined period of time. Varied periods of delay up to approximately ten seconds are possible. Priced at \$4.25 including Federal Tax, the Auto Release will be available through Kodak dealers.



**EASTMAN KODAK CO.
ROCHESTER 14, N. Y.**

Contax Rapid Winder

For Contax owners who have a yen to try their hand at action-sequence shooting, PIC announces a new rapid-winder accessory. Designed by Ray Shorr, 35mm photographer for Black

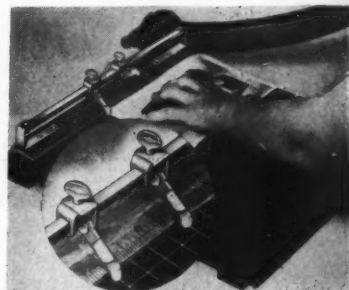


Star agency, the winder permits shooting a 36-exposure roll in about that many seconds without necessarily taking the camera from the eye. The device attaches quickly to the winding knob of the Contax II by simply tightening three small set screws. It is carefully and attractively made of satin-finish duraluminum and designed to follow contours of the Contax body so that the camera case may be closed with the winder in position. Priced at \$5.95, plus 75c Federal Excise Tax, the Rapid Winder is available from . . .

**PHOTOGRAPHIC INSTRUMENT CO.
241 WEST 27TH STREET
NEW YORK 1, NEW YORK**

Thumb Insurance

If you're one who relies upon thumbtacks, Scotch Tape, or intuition every time you have to use a trimming board in the dark, then Webster had you in



mind when they designed "Trim-True." Attached to your regular trimming board, Trim-True eliminates non-uniformity and works as accurately in total darkness as in a lighted room.

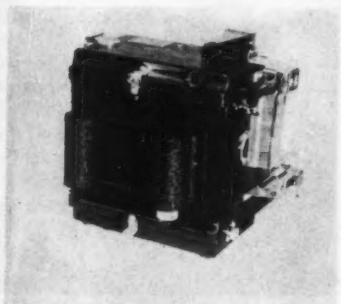
This new trimming accessory consists of a mounted guide bar equipped with a pair of sliding stops which permit selection of any desired measurement along the rule. The stop nearest the cutter blade determines width, the second stop controls length. Both stops lift out of the way without altering

slide position, or either can be snapped instantly in place to establish length or width. Thus width and length may be cut progressively on the same piece without lost time for resetting stop positions. Simply establish both dimensions, then flip stops up or down as needed. Extra stops may be purchased if more than a single pair is desired. Trim-True is attached to any cutting board with either screws or small bolts. Bar lengths are available to match your board. For further information write...

WEBSTER INSTRUMENT CO.
11856 MISSISSIPPI AVE.
LOS ANGELES 25, CALIF.

New-Size Roll-Film Adapters

A lot of photographers stuck with the high cost of film, especially color, for $3\frac{1}{4} \times 4\frac{1}{4}$ " and 4×5 " cameras will appreciate the new roll-film adapters now added to E. Suydam's line. The adapter



will fit both Anniversary and Pace-maker Graphics and similar Graphic-type cameras which have a flat leaf-type spring back. It is all-metal, equipped with dark slide, and each unit is furnished with two masks for making either twelve $2\frac{1}{4}$ "-square or eight $2\frac{1}{4} \times 3\frac{1}{4}$ " exposures on standard 120-size roll-film. Also furnished is a simple snap-lock which secures the spring back or permits it to be interchanged with the adapter in a few seconds. Compact in design, the adapter does not protrude more than $\frac{1}{8}$ " from the camera when in place. Further information on the new adapters, as well as on the manufacturer's complete line of other sizes and styles can be had by writing...

E. SUYDAM & CO.
2080 LINCOLN AVE.
PASADENA 3, CALIF.

Anso Prices Reduced

Anso has dropped the price on their F:3.5 Automatic Reflex to \$165.00 for the synchro-shutter model (with standard shutter, now \$145.00), which represents a cut of more than 30%. Other reductions are the F:4.5 Titan, now \$69.50; F:6.3 Speedex, \$39.50; Rediflex, \$12.95. All prices include Federal Excise Tax.

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NELSEY PRESSES, N-14, Meriden, Ct.

These foreign amateurs want to trade pix

Last month, in the *Modern Photography* article "French Friends Would Like To Trade Snapshots With You," we proposed an experiment in international goodwill based on the language that everyone understands—pictures.

Any photographer, whether an amateur with a box camera or a professional with an expensive rig, who wants to send a few of his pictures to a new friend in Europe, and receive in return a selection of European pictures, can participate.

All you have to do is pick a name from the lists published in *Modern Photography*. Sit down and write a brief note to your new photographic friend telling him that you would like to exchange pictures with him. Then select a few snapshots from your files, enclose them with a note, and drop them in the mail. No gifts or money are involved in this plan.

Every day, the editors are receiving big bundles of letters from photographers all over the world asking that their names and addresses be published so that you can write to them. In a typical days' mail we receive letters from England, France, Belgium, Switzerland, Denmark, Sweden, Germany, the Union of South Africa, Egypt, India, the Orient, and South America. All of these letters indicate that photographers in other lands are anxious to learn about the way of American living through your snapshots, and to tell you about their way of life through their pictures.

As rapidly as possible, we are preparing lists of foreign photographers for publication. The following list completes our catalogue of French photographers. Watch for the names of cameramen from other countries in forthcoming issues.

The first class letter rate to France, and most of Europe is 5c for the first ounce, and 3c for each additional ounce. The air mail rate is 15c for each half-ounce. *Do not send letters to Modern Photography for forwarding to Europe.*

M. Labori, 1 Terrace Cité Bergère, 9e, Paris, France
M. Lacroix, 44 Rue Ménilmontant, 20e, Paris, France
Mlle. Laveau, 41 Rue Taitbout, 9e, Paris, France
M. Le Boyer, 1 Rue Paul Escudier, 9e, Paris, France
M. Lecarpentier, 15 Rue Bérange, 3e, Paris, France (Photomicrography)
M. Lefebvre, 61 Ave. Denfert Rochereau, 14e, Paris, France

M. Le Foulon, 1 Square Jasmin, 16e, Paris, France
M. Lemonnier, 23 Rue Moines, 17e, Paris, France
M. N. Léon, 266 Rue Pyrénées, 20e, Paris, France
M. Loeb, 10 Rue Deux Gares, 10e, Paris, France
M. L. Lorelle, 14 Rue Lincoln, 8e, Paris, France
M. Lucas, 84 Rue Blomet, 15e, Paris, France
M. Lyon, 26 Rue Nicolo, 16e, Paris, France

F. BERKO



M. Maes, 17 Rue Bouloi, 1er, Paris, France
M. Malzac, 155 Rue Pompe, 6e, Paris, France
M. Mandel, 6 Rue Ancienne Comédie, 6e, Paris, France
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M. Marchal, 38 Ave. Dumesnil, 12e, Paris, France
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M. Paul Marmand, 33 Rue Du Renard, 4e, Paris, France
M. Marmour, 14 Rue Cloître Notre Dame, 4e, Paris, France
M. Masour, 21 Rue Viète, 17e, Paris, France
M. Bertrand Maurice, 19 Rue Froment, XIe, Paris, France
M. Les. Médailles, 4 Rond Point Champs Elysées, 8e, Paris, France
M. Mellin, 247 Rue Vaugirard, 15e, Paris, France
M. Mercier, 33 Faubourg Temple, 10e, Paris, France
M. Merle, 5 Rue Farnand Foureau, 12e, Paris, France
M. Maurice Meys, 11 Rue Blanche, 9e, Paris, France
M. Morin, Blvd. St. Michel, 6e, Paris, France

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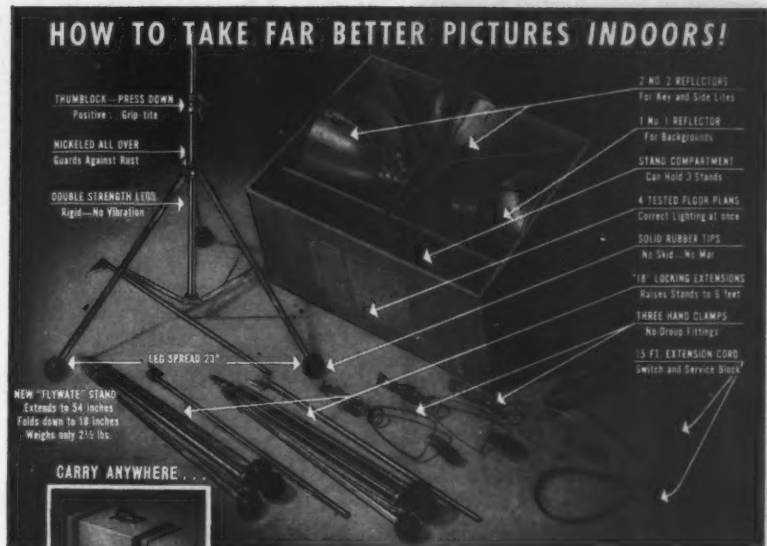
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- M. Moureu, 22 Blvd. Charonne, 20e, Paris, France
M. Nadar, 48 Rue Bassano, 8e, Paris, France
M. R. Nadau, 11 Rue Sablons, 16e, Paris, France
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M. Novaro, 4 Rue Lauriston, 16e, Paris, France
M. Olivier, 27 Rue Nantes, 19e, Paris, France
Mme. Ordinaire, 86 Blvd. Batignolles, 17e, Paris, France
M. Orsini, 59 Rue Martyrs, 9e, Paris, France
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Color Sequences

Continued from page 79

attempt to duplicate your efforts a second time.

Patience is something everyone concerned will need plenty of. If you are working outdoors such factors as changing light, gusts of wind, or intrusion of other people may require periods of waiting to bring conditions back to normal. This means you will have to do the same shot over as many times as is necessary to insure getting it exactly as planned. In making this particular series, from which four pictures were selected to tell the sequence story on this month's cover, I was lucky in having Sherry Durkee as my model.

I was using an Eastman II Reflex borrowed from my uncle and being unfamiliar with its workings, I seemed to be cursed with a phenomenal number of thumbs. Shooting at 1/300th second at F:3.5 on Ektachrome, the light variations from a high overcast made things even more difficult. Sherry had to take great lumps of snow in the face time and again before I felt certain that we had filled all the gaps in the sequence. With a less willing model, one snowball would have been enough—and there would have been no completed sequence series.

Vallee-Video

Continued from page 86

little experience with a school dramatic club.

Informal, but adequate, planning goes into preparation of the scripts. Vallee and a few writers get together at his home, and over coffee dream up a story idea. A stenographer takes notes, and drafts a synopsis of the story line. Vallee's staff writer, Miss Dora Hall breaks up the story line into sequences or scenes for filming. Dialogue for the scenes is written at a second session between Vallee and his co-workers. Out of this preparation comes the shooting script for an 11 to 23 minute television movie.

Casting is done by telephoning dramatic schools, calling The Studio Club (a girl's club where would-be actresses live until they make the grade in films or radio), or inviting talented friends and neighbors to participate.

On the day of the shooting, the cast is assembled and Vallee, or one of his associates, reads the script to them. In this way, everyone has a thorough understanding of the script. Vallee coaches the cast in the songs used.

Then the movie is filmed, scene by scene. Before each scene is photographed, the script is again read to the cast. Then they rehearse the scene once or twice before the cameras start turning. Except in special cases, actors are not required to memorize dialogue, they use their own, natural interpretation of words to be delivered.

"The whole procedure is very much like that used by Mack Sennett and Harold Lloyd when they made their movies by sunlight twenty years ago," Vallee explains.

The sound track is recorded when the scene is filmed; either directly on film with the Auricon camera, or on magnetic tape recording units, then later dubbed into the master print of the film which combines pictures and sound. In some cases, sound and music are recorded after filming, since background traffic noises often preclude recording on location.

When sound is to be recorded later, Vallee has a print made of the picture. The cast and organist or musicians are assembled in the studio. While the film is being projected on the screen, the actors speak their lines in unison, following the movement of their lips on the screen (as Al Jolson followed the lip movement of Larry Parks in the "Jolson Story" pictures), and the musicians follow cues given by Vallee. This results in a sound track that is perfectly synchronized with the movies on the screen.

The movie camera, in the hands of Victor Kayfet, (now Vallee's East

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Coast manager) has no special gadgets other than those the average amateur who owns a Cine-Kodak Special might be expected to possess. It does, however, have a magazine to carry 200' feet of film. Most of the pictures are shot with the standard Kodak Cine Ektar 25mm F:1.4 lens on Super XX film. For accentuating cloud effects in outdoor pictures, Kayfetz uses a medium yellow filter on black-and-white. Night-time effects are produced by fitting a dark green filter to the lens.

"We had to throw away several hundred feet of the first night shots we made," Vallee reports. "We took them on a bright day with the green filter. The shadows of actors and props, however, showed up clearly in the film to prove the picture was made by day. Now we know better and take our night pictures on hazy days."

These budget television films, made by Vallee-Video and other independent producers, are being telecast every day from coast to coast. By studying them, amateurs have the opportunity of learning script ideas and filming techniques that can be applied to their own moviemaking. Few require expensive equipment, elaborate sets, or large casts.

Copies Without Glare

Continued from page 49

Exposure can best be determined by developing a trial film which has been given a series of exposures. Such a film shows the proper time and aperture for the lighting setup. Or, exposure can be determined by meter readings of a white matte card placed in position of the subject to be copied, with the Pola-Screen held over the meter window at the intended angular rotation of the screen.

The new copying method can be used with all photographic films, including color and infra-red. All, however, require two-and-one-half times the normal exposure with the Pola-Screen in full-open position, due to the neutral density of the screen.

Polarized copying works well with all types of originals, including old photos, soiled prints, prints with stains or spots, faded prints, daguerreotypes, tintypes, photoengravings, lithographs, paintings, pencil, charcoal, and crayon sketches, etchings, and line drawings. When a stained photo is to be reproduced, color filters can be combined with the Pola-Screen on the lens.

Lamp Pola-Screens which can be attached to any photoflood lamp unit can be used for no-glare copy work if desired, in place of the Pola-Lamps.

Basketball Photography

Continued from page 72

a requisite to making good basketball shots because only the photographer familiar with the sport can anticipate the split-second action that makes for dramatic pictures.

No Flash Allowed... Sometimes

Since popping flashbulbs can distract players, many basketball coaches rule out the use of ordinary flash bulbs in photographing big college and professional games. Without the aid of flash, the regular lights in the gym must be made to do the job. This calls for a fast lens and fast film.

Speedlights, on the other hand, are permitted in some gyms during games because the flash duration is shorter than ordinary flash bulbs and it disturbs players less. It is always best to inquire first if flash or speedlights are permitted.

In local high school and "Y" games, coaches are often very lenient about the use of flash, as long as the photographer does not make a nuisance of himself by interfering with the play.

Proper Equipment

There is considerable disagreement over which equipment is best for indoor sports photography. Many photographers prefer a miniature camera with an F:2 lens when they go after fast action shots. The main requirement is a fast shutter, 1/200 to 1/300 second, to freeze the action. As a rule, an F:3.5 lens will record most of the action on the average basketball court.

Even the snapshot camera can be used at basketball games. Often the court is lighted by a number of 1000-watt floodlights which throw enough light on the players to make snapshots at 1/25 second possible on fast film during not-so-active moments of the game.

Of course if flash is permitted, the picture results will be easier to control with the light that one or two Press 40's provide. An extension flash held 10 or 15 feet away from the camera by an assistant will give better modeling than the single-light-at-the-camera method.

If flash isn't to be used, an exposure meter will come in handy for taking readings of the general light conditions in the gym before the game starts, but the photographer should not depend upon it during the game. If he has to fiddle with a meter to expose each shot, he will miss out on most of the good pictures.

Other items that often come in handy are a light tripod, a panhead, and a flashlight. The tripod and pan

head make it easier to follow the action with a steady camera while waiting for "the" shot, especially if the camera is heavy. The flashlight serves as an aid in reading dials on the camera and in finding things dropped in the dark. In many gyms, the spectators sit in half-light during the game, and setting the shutter speed and diaphragm aperture is something of a problem.

From Where to Shoot?

In selecting film, a high speed, medium grain, wide latitude emulsion, designed for use under poor lighting conditions is desirable. Such fast films as Kodak Super-XX, Ansco Superpan Press, DuPont 428 and Eastman's Super-Panchro Press, Sports Type (available in sheet film only), are good. Some press photographers also like Defender Arrow-Pan sheetfilm for indoor sports due to its moderate contrast.

Kodachrome and Ansco Color, tungsten types, can be used with speedlights or flashbulbs or where lighting is good and the players are poised for action but momentarily motionless.

There are two "ideal" locations from which to shoot basketball pictures—at the baskets, and opposite the

center position. Action in the center of the court can best be filmed from the side-lines, directly opposite the center position. Many newspaper cameramen establish a focus for 15-feet from this position, and then work in a semi-circular radius about their central position. Action at the baskets is best pictured from a location on the side-lines in line with the basket, or from just under the basket.

Action shots on the floor, such as the instant the man with the ball encounters a defense player, and halts to dodge and look for an opportunity to pass, can be stopped at F:3.5 at 1/200 second. The shot of a player rising to drop a ball into the basket, or trying to keep it out, generally requires a speed of 1/300 second, at the largest lens opening possible. Both photos are estimated for pictures taken without flash.

Spectator Pictures

There is room for originality in basketball pictures.

Often the best pictures at a game are not of the players but close-ups of the substitutes on the bench, coaches watching their men, and the crowd expressing obvious emotion as

their team is winning, losing, blundering, or pulling a clever play. The cameraman should always be alert to an opportunity to catch an original picture of expressive facial movements of some spectator who manages to typify the crowd's feelings.

Darkroom Data

Photographers of basketball games will often find it necessary to force the development of negatives which have of necessity been underexposed. There is a lot of truth to the old adage that many sports action pictures are made in the darkroom. If the photographer who took the pictures does not know how to process the film to get the most out of the negative, the chance that his pictures will be good is cut in half.

Inspection of under-exposed fast pan films during developing is good picture insurance. There are two ways in which this can be safely accomplished.

In the conventional developing procedure, after three minutes in the developer, the film will have desensitized itself naturally so that it can be inspected at brief intervals under a dark green safelight.

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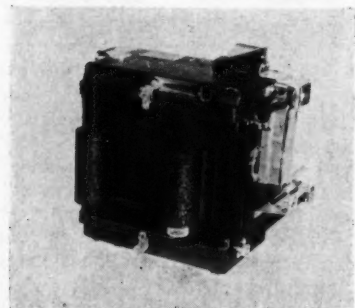
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An alternate method employs pinakryptol green, as described in *Modern Photography*, October 1949. A very dilute solution of this dye, used as a before-developer bath, reduces film sensitivity and permits developing most panchromatic emulsions under Wratten Series OA or Ansco A-6 safelights, without danger of fog.

Only by inspecting the film during developing can the photographer see how the image is coming along. If he fails to inspect, there is a good chance that development will not be carried as far as necessary.

Some photographers who do a great deal of negative forcing use a stock solution developer, like Eastman D-72, full strength. The negatives produced are contrasty, but such development does bring out latent images that might otherwise be lost.

During the shooting of action pictures, little thought can be given to composition. However, a great deal can be done in the darkroom during enlarging to improve photos. Rarely does a photographer take any sports picture which cannot be helped by cropping in some manner. Under-exposed areas can be dodged or masked to keep them from going very dark and losing their detail.

The Flexichrome Process

Continued from page 32

photographer and illustrator that it is worth the effort.

The color of objects in a picture, for instance, can be changed to suit the needs of the user at will. Thus, if the advertiser does not like a yellow blouse appearing in his color illustration, it can easily be changed to blue. Sections of Flexichrome pictures can also be stripped out of one shot and stripped into another without any loss of quality or effect. Thus, effects which heretofore were only possible within the realm of the graphic arts can now be achieved in color prints before four color plates are made by the engraver or lithographer. In addition, Flexichrome prints made in large sizes offer department stores color posters and display pieces in short runs at a comparatively low cost. For colored portraits they can be made so they are really "true-to-life."

The big advantage of the Kodak Flexichrome Process lies in the fact that the technique can be used to promote a good color print from any black-and-white negative. Furthermore, color prints can now be made without any great investment in special air-conditioned darkroom facilities and the other special equipment generally employed by color photographers.

On the Spot Photography

Continued from page 47

Under the direction of Lt. Vincent Fox, the Washtenaw (Michigan) County Sheriff's Office has created an outstanding photographic section in its police department, using inexpensive cameras throughout except for major crime scene photography such as murders, etc.

As a part of their investigation of every major crime or accident, the Washtenaw County Police photograph the complete scene and all clues on the spot in both color and black-and-white. They use reasonably-priced 35mm Argus flash cameras. This office claims to be the first police department to introduce color prints as evidence in court.

Lt. Fox, a member of the Board of Directors of the International Bureau of Identification, is also using low-cost 35mm photography in taking identification (mugging) photos in color. For this purpose he has rigged up a permanently focused Argus C-3 in front of a height chart before which the prisoner stands. The C-3 has been adapted to provide two pictures on one regulation double frame of film. This allows for both front and side views of the prisoner to be filmed on one double frame of film, which will later become a regular 2 x 2 slide.

"The advantages of mugging in color are obvious," Lt. Fox declares, "because the photographs are primarily used to help citizens identify suspects at a later date. We catalog our transparencies according to a physical classification system including complexion, age, height, weight, and so on. Then, when a complaint of any nature is received, all slides fitting the general description are pulled from the file. One by one they are projected on a screen life size. This helps the viewer identify the person we are looking for."

To date, the Washtenaw Sheriff's Office has mugged 9,000 prisoners in color, and they are still using the original Argus C-3 camera. The idea is so valuable to law enforcement work that it is being adopted by the Michigan State Police, Nassau County (Long Island, New York) Police; Toledo, Ohio, Police; the Jackson, Mississippi, Police; the State Police Bureau of Iowa; and the Los Angeles County Police, to name only a few.

Lt. Fox says that through experience and careful planning his department is able to produce color identification photos cheaper than many police departments are able to make their 4" x 5" black-and-white identi-

cation pictures for their files.

Catching criminals with the camera has been made easier with the development of inexpensive fool-proof equipment. Cases formerly lost to the prosecution in court are now won with blow-ups of pictures made at the scene.

"Now if the jury will notice how the skid marks of the defendant's car lead right into the marked safety zone . . ." With one picture, the prosecuting attorney had little trouble in presenting the case of a hit-and-run driver to the jury. This particular photo was supplied by Deputy Chief B. R. Caldwell, of the Traffic Bureau of the Los Angeles Police Department. This single division of the third largest city police department in the world operates 50 flash cameras.

Inexpensive cameras are particularly desirable for police and fire work, not only because they are simple to operate, but because they are expendable. A camera may get kicked out of a squad car, or be broken by an angry prisoner who has a bad feeling about being carted off to jail.

In many cases, officers purchase the cameras personally and use them for possible advancement through the

contribution of photography to the work of their police department.

Recently a Pennsylvania Railroad detective purchased an Argus Reflex camera to photograph train derailments, wrecks, and accidents for the company records and investigations.

The fire police at Pottstown, Pennsylvania, have several low-cost cameras to record fire inspections and other official data. Several cases of arson have been discovered through a study of pictures made with these cameras.

A policeman in Chicago has carried a \$15 Fed-Flash camera with him in his squad car for over a year. He specializes in taking bicycle accident photos, and pictures of accidents in which school children are involved. Making lantern slides from his photos, he spends his spare time lecturing on bicycle hazards and safety to Cook County school children.

Using a \$4.00 "Dick Tracy" camera, a St. Louis cop took pictures of a worker in a clothing plant slipping "Union Made" labels into non-union garments. The picture was used as evidence in court.

ASCAP, the composers and authors union, supplied a number of plastic

box cameras to investigators who made pictures in major cities of vendors, typesetters, and printers who were producing and selling song sheets containing words pirated from ASCAP members' music.

A Kodak Flash Brownie was used by a private detective to catch another kind of pirate who was illegally printing 16mm feature movies. The criminal was a delivery man for a big film library. Enroute from the library office to the Railway Express Office, the delivery man would stop off at the house of a friend. There, the two would make copy prints of Hollywood feature films before the pictures were delivered to the express company. The deliveryman and his friend were running a lucrative sideline business renting these copy prints. With the Flash Brownie, the private detective filmed the whole story, which was used as evidence before the jury.

In addition to providing a pleasant hobby for the amateur snapshot photographer, inexpensive cameras with flash are photographing evidence, by day or night, before you can say "Jack Robinson," and the pictures tell the truth to the judge and jury.

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IKONTA B 2 1/4 x 2 1/4" camera with Tessar f3.5 coated in Compur, speeds to 1/500.....	99.00	
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New England's Finest Photographic Mail Order House

2 Paris Photographers

Continued from page 55

compares the classic philosopher Goethe with his secretary, Eckerman, who kept a day-by-day account of Goethe's life and conversations. Eckerman's objectivity is the complete surrender to his subject. Goethe's objectivity is of a higher order. It combines a feeling for the essential core with a profound understanding of the subject.

"In photography, too, we must distinguish between surrendering and selective objectivity," Brassai declares. "Photographs should have significance, report an observation, and emphasize the important. Only then can we accept them as good pictures."

The Leaves Tell a Story

"We photographers are often called picture hunters, but the opposite is true; the images hunt us," Brassai explains, fingering a leaf that fell from a nearby tree onto his table at the sidewalk cafe.

The leaf suggests a story that helps explain how images hunt photographers.

Once, during a vacation, Brassai stopped at a roadside inn near a small French village. As it was too early for lunch, he took a stroll around the place. A poplar tree of special variety caught his eye. He studied the yellow-brown leaves, gathered a few, and returned to the inn. He spread the



... Doisneau self-portrait

leaves on a white tablecloth. "La patronne," the innkeeperess, commented that she had never before seen such pretty leaves.

"They are leaves from your own poplar tree," Braissai told her. "Which goes to show that we don't necessarily see the beautiful or interesting before our eyes; so often it has to be shown to us by an artist."

Upon his return to Paris, with the leaves neatly pressed in a book, Brassai's young assistant (who like almost everyone in postwar Paris dabbled in

the black market) expressed his disappointment: "Is that all you brought back from your vacation . . . leaves? There is no money in leaves."

A week or so later, a publisher visited Brassai to select some pictures for

GEIGER FROM RAPHO GUILLUMETTE



... Brassai among negatives

illustrations of a new book. He noted the poplar leaves, which Brassai had mounted on a wall, but he made no comment.

A few days later, the publisher phoned Brassai. "I may have been somewhat indiscreet, but I could not help being interested in your *feuilles mouchetées*. I have a collection of tree leaves in which I would love to include your specimens. Would you care to trade them against an art book which I have published?"

Brassai accepted the deal. When the books arrived, he found that they were an expensive luxury edition of a three volume set. Brassai was amused when he saw his assistant stunned by the cash value of the books traded for a few leaves. Since then, so the story goes, the young lad has been spending many Sunday afternoons gathering leaves in the woods around Paris.

French Movies

The efforts of the realists in French photography to bring sincerity to still pictures, has been reflected in the French cinema. Unlike Hollywood's spectacles, in which actors and actresses are beautiful and handsome physical specimens, playing their roles under excessive artificial light, French movies (as well as the movie products of Italy and Britain) are often more simple, more sincere. The settings are more true to life, the lighting less brilliant, and the leading players unglamorous. French movies, like still pictures, give less thought to prettiness, and more thought to human interest and reality.

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Amateur Report

Continued from page 17

be bent so as to insure a tight fit. Personally, I think it's purely a matter of choice."

"Isn't there a difference in price?" Miss Tilford wanted to know.

"Not for the better known makes of shades," I told her. "The average lens shade sells for around \$2.00, and the average retaining ring to go with it costs about \$1.35. Oftentimes you can pick up second-hand shades and rings for a fraction of that price."

Miss Tilford was obviously convinced that a lens-shade was an accessory she really needed, but I have to give her credit for being thorough in her questioning.

"Why are some of these shades round in shape while others are either perfectly square, or squares with rounded corners?" she wanted to know.

I explained that a square was the ideal shape for a lens because the straight sides of the square permitted less extraneous light to reach the lens where it could bounce around from surface to surface and eventually reach the negative. "The only squarish lenses available for small cameras, however, are the ones made for reflex cameras of the Rollei series. These lens shades are known as the 'bayonet type' and cannot be attached to other cameras not designed to receive them. But while a square lens-shade may feature the ideal shape, round lens shades for small cameras are completely satisfactory insofar as results are concerned."

Miss Tilford had one more question. "You mentioned a while ago that too long a lens shade might 'cut off part of a picture. I suppose this means that if the shade portion extends too far in front of the camera, the lens is apt to record a portion of the shade itself in the picture. Is this correct?"

"It rarely happens with a standard lens-shade fitted to cameras with non-interchangeable lenses." I said. "Where it is most likely to occur is when an amateur who owns a camera with interchangeable lenses buys a shade to fit his regular lens, and then tries to use the same shade on a wide-angle lens. If a person is in doubt about a lens shade he wants to buy, his best bet is to stop the lens down to about F:16 and open the back of the camera. Then, with the shutter on *Time* or *Bulb*, one should look through the lens from the corners to see if the shade cuts off the image. As I said before, you won't have this sort of a problem to deal with, Miss



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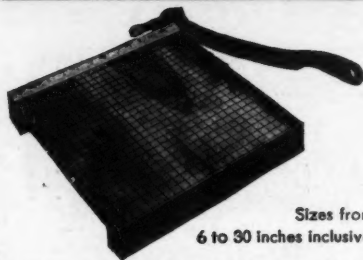
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Tilford. Any standard shade that fits your camera is completely safe insofar as cutting off the images is concerned."

After all that talk about lens shades I suppose I ought to dream up a Hollywood ending about Miss Tilford having all her friends rush in an clean out my stock of lens shades. Actually, she bought a second hand lens shade and a filter—and I lost her photo developing business from that day on.

I did sell her the tank and trays with which she is doing her own work, though. And now she's saving up to buy an enlarger she had me set aside for her last week.

Garutso Lenses

Continued from page 85

Another picture called "Tough Assignment" is in preparation, and in the television field a series of pictures dealing with Horowitz, Rubenstein, and other of the world's greatest musicians are in production. Produced by Rudolph Polk under the label of World Artists, they are being directed by Irving Reis (Roseanna McCoy and The Batchelor and the Bobbysoxer among others). Mr. Reis reports that the Garutso lens system shows great promise.

"Much of the action seems more dramatic and interesting," he explains. "And we were able to beat the old bugaboo of the movie industry: shooting wide open. We had better depth of field, could maintain the correct light balance, and could stop down more readily. Floyd Crosby, our cameraman, tells me that at times the depth was even too great and some foreground features were sharper than necessary. Of course we haven't given the lens system a challenging test. The best situations are yet to be made which will truly show the value of this new tool."

Mr. Rubenstein's reaction to the films of him were so enthusiastic that he invited the whole production and shooting crew to dinner when the film was in the can.

Cameramen Hal Mohr, Lee Garmes, Carl Berger, Ben Kline, Marcelle Pickard, William Clothier, Henry Sharp, Floyd Crosby, and Frank MacDonald who have used the new lenses also praise their quality and ease of operation.

If the Garutso lenses meet with complete acceptance in the movie and television field, they, or their successors, will sooner or later branch out into the field of still photography—and thence to amateur use. Like photoelectric exposure meters and lens coating, whatever benefits one part of photography for a time—eventually benefits photography as a whole.

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8mm 50 ft.	FEMME D'ART	100 ft. 16mm
8mm 50 ft.	VENUS WITH ARMS	100 ft. 16mm
8mm 50 ft.	VISION IN BLACK	100 ft. 16mm
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Hollywood and Vine

Continued from page 20

(Modern Sept. '49). After seven years in China covering the war, maybe Earl deserves a prolonged change of pace.

Eddie Kaminski, the Art Center instructor whom you read about in November 1949 MODERN has long taken his classroom teachings seriously enough to follow some of his own directions. He and friend Bob Wallace (see above) spend their odd evenings in Eddie's long narrow dark-room turning out pictures which would startle the inhabitants of a Charles Adams cartoon. On the shelf above the enlarger Eddie has stored two dozen different types of glass: scratched, molded, etched, cracked, bent, shattered, and otherwise anything but plain. Overprinting these textures plus hundreds of others with a head or figure produces painting-like prints which often have great charm. The latest of Eddie's textures come from his own backyard where a bunch of ducks, a couple of pheasants, and some chickens shed enough feathers to line the inside of the enlarger—if necessary. It's not enough that Eddie preaches painting shaving soap lather on your negatives; he's trying to breed a rabbit that sheds something (besides baby rabbits) which he can use for new effects!

Miniature camera photography may be staging a comeback, judging from the course that Lisette Model recently conducted at the Calif. School of Fine Arts in San Francisco. For six weeks her second and third year students roamed Union Square, Market Street, the races and the zoo looking for new photographic approaches to old material. Both the animals and the people lent themselves to a broad technique that the 35mm camera has come to symbolize in recent years with the pioneering of a few photo-journalists. In another project the same students moved their classroom more than 100 miles for a guest lecture by Edward Weston in his Carmel studio. The mountain went to Mohammed!

ASMP's West Coast members are every bit as hard to keep track of as their brethren who base their operations in NYC. At their last meeting in Bob Landry's Hollywood studio (he's prexy of the W. C. Chapter) such "seldom-see-ums" as the following were on hand: Jay Eyerman, Pete Stackpole, Don Ornitz, Will Connell, Louis Hochman, Earl Leaf, Bob Wallace, and Ed Clark. There was another member present whose name we didn't catch (we apologize), but he was whizzing through town heading for Texas, and we barely glimpsed him as he went by.

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DOES DAYLIGHT LOADER

Night Aerial Photography

Continued from page 71

cussion shattered windows in many apartment buildings.

Disastrous incidents follow in the footsteps of magnesium flares. Even as recently as during World War II, flash bombs were known to catch on parts of planes and explode as they dropped, causing serious—but fortunately non-fatal—damage.

The problem of night aerial photography resolved itself into four parts:

1. The camera problem, particularly regarding film capacity and automatic film transport.

2. The optical problem of providing a suitable lens of sufficient speed to permit weak light to register on the film.

3. The development of a fine grain film to accurately record images on the ground from high altitudes.

4. The development of a stable illuminating source.

By 1940, the Air Force had the camera problem partially solved with the Fairchild K-19 Night Camera and the Eastman 12" F:2.5 lens taking a 9-inch square picture. This camera was one with a relatively short focal length. The 12" lens limited the altitude from which pictures could be taken. The camera also required an operator.

Camera Problems

Not all designs of high-speed planes, like the single-place P-51 Mustang, could accommodate a photographer in addition to the pilot. This meant that electrically powered cameras were needed to take anywhere from 500 pictures per second to 1 picture every two minutes. A new piece of film had to be brought into the focal plane, accurately positioned, stopped, held flat during exposure, then removed from the focal plane to make room for the next exposure—all automatically. The film used was a 400' roll, weighing 18 lbs.

The camera problem was partly solved by the development by Fairchild of the K-17, with 6", 9" and 12" lenses; the K-18 camera with a 24" lens and the K-22 camera with a huge 40" lens. From 20,000 feet, the K-17 camera, with a 6" lens covers an area of 100 square miles, and is automatically controlled. Other new cameras are the K-34 and K-22A. The K-34 takes a 9"x18" exposure, while all the others are 9"x9".

Another recent solution to the camera problem is afforded by the S-7 continuous strip camera which uses no shutter at all. It employs a variable-speed film drive which moves a 200' roll of 9 1/2" wide film past a narrow slit

in the focal plane of the camera at a speed equal to the forward motion of the plane in relation to the ground. This produces a long continuous strip photograph of everything below the camera as it passes over the earth. Exposure is a function of lens aperture, film speed and focal plane slit width. This camera has yielded remarkable photographs using Ansco and Kodachrome Color Film under very poor night light conditions. With the S-7 camera a continuous photograph of the United States from the Atlantic to the Pacific coasts, covering a ground strip 10 miles wide and 2,500 miles long, has been made on a single roll of film.

BETTMANN ARCHIVE



...early aerial photography

The lens problem has been of utmost importance, but fortunately marked by great progress. According to Col. Goddard this progress has carried the U. S. beyond the best photographic optics produced by the Germans. Air Force lenses used in night aerial photography vary in focal lengths from 3 1/2" to 100". Recent studies in the effects of temperature and air pressure upon the focus of aerial lenses led to the design, production and use during World War II of the electrically heated, distortionless Baker 40" F:4.5 telephoto lens. It embodies automatic temperature and pressure compensation and can be focused accurately at all altitudes above 2,000 feet. With this new lens, the old dream of the aerial photographer—to take pictures of railroad ties from heights of eight miles—has become an every day reality. Most of the pictures used to illustrate this article were made with the Baker 40" lens.

Eastman is also producing a new 48" F:6.3 telephoto lens, which has provision for temperature and pressure compensation, although this is not automatic as in the case of the 40" F:4.5 lens.

To test the effectiveness of the new cameras and lenses, a photograph of

an F-80 jet fighter plane flying north at 500 m.p.h., was taken with the S-7 camera mounted in another F-80 flying south at 500 m.p.h., and several hundred feet above the other aircraft. There was no perceptible blur in the resulting pictures, which were made at a relative speed of camera and target of 1,000 m.p.h.

Another new development is a wide angle lens constructed by the Boston University Optical Research Laboratory. This is a 6" focal length F:3.5 lens and covers 125 degrees. At an altitude of 40,000' it will photograph a circular area of 660 square miles in a single picture. It would be possible to take an aerial photograph of nearly the entire state of Rhode Island on a single negative with this lens.

It was evident years ago that the best daytime aerial film was not sufficiently sensitive for good night results. It lacked the power to record full detail in suitable contrast for the technical map readers to read the ultimate print. This led to the development of a special night film—Class N. While this film has the needed ability to record night photography, it also has the unfortunate quality of instability. Experience proved that it had to be refrigerated, and used promptly, otherwise it would lose its speed, as did the old wet plate emulsions employed by early photographers. The Air Force appeals to manufacturers to supply fresh rolls of film, and urges precaution against improper packing or storage next to steam pipes enroute. As recently as November 15, 1949, the Air Force received film that was useless for night photography. There has been no development to overcome the weakness in this film.

Two entirely different systems are in current use for turning night into day. The first and older system employs flash-bomb illuminants; the second is the Edgerton flash system.

The standard flash-bomb in use today is the M-46. Weighing about 52 pounds, of which nearly half is flash powder, it produces 500,000,000 candlepower and is detonated by a pre-set time fuse. The peak candlepower lasts about 1/10th of a second.

Expected to replace the M-46 is the T-9 flash-bomb developed at Ohio Wesleyan University. It has a total light output of nearly 2½ times that of the M-46, or over 1,000,000,000 candle-power.

Dropped from the plane, the flash-bomb is ballistically constructed so as to fall just outside the cone of vision of the night aerial camera. Detonated at a pre-determined altitude, the initial flash trips a photo-electric cell circuit which in turn trips the camera shutter well before the bomb light peak is

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The Edgerton flash system—the discharge of the energy stored in a bank of capacitors through a xenon-filled tube—produces a brilliant flash of short duration. It was developed by Dr. H. E. Edgerton, a physicist at Massachusetts Institute of Technology. It provided a non-lethal source of illumination for night aerial photos.

Synchronization of shutter action to flash is simpler than in the case of the photo-cell and flash-bomb. The shutter is tripped, and when it is in full open position, triggers the flash tube. Three types of flash units were designed by Dr. Edgerton for night aerial photography. The D-1 weighing 125 pounds, is used up to an altitude of 300'. The D-2, weighing 460 pounds, has an operational limit of 2,500'. The largest unit, the D-3, is useful up to 12,000' weighs 3,500 pounds, and creates an 80,000,000 candlepower light source of 1/1000 second duration.

The use of aerial color film is increasing for both night and day photography. Its unique advantages for photo-interpretation work, permitting identification by color of industrial smokes, wastes, and other technical features, insure eventual widespread use. Using color film, water depths may be estimated within a foot or two, when color is exposed in the stereo version of the continuous strip camera. In the late Pacific campaign stereo strip color films were made of a sea wall at a beach. The map readers estimated the height of the wall at 6'. They were off only 2".

The color film being used in today's aerial photography is of the transparency type. Copy prints are made by the Air Force by the Printon process.

To help Air Force technicians and photographers orient the camera when making aerial maps, so that all of the ground area is filmed, the Air Force is using the Polaroid Land Camera. In certain types of aerial mapping, the plane passes back and forth over the ground in a series of parallel movements like a man mowing a lawn. To make certain that there is an overlapping area in each pass over the ground, the Air Force photographer exposes a Land Camera film at the end of each pass. Developing the picture in a minute, the photographer is able to check the plane's position at the beginning of the next pass.

One physical characteristic still defeats good night aerial photography, namely, moisture in the atmosphere.

The pressure of fine, globulated moisture reflects the light of the flash similar to a bevy of tiny mirrors. This causes loss of contrast, and flat pictures. These weak pictures are useless to map readers. Thus far science has found no way of correcting the moisture problem, and this problem will no doubt continue to be a limiting factor for night photography. The generals can order a mission, but the cameras will not be able to deliver the best pictures if nature is not in a cooperating mood.

Under the direction of Col. Goddard, the Air Force Photographic Laboratory at Wright Field is furnishing us with a preview of photographic things to come. Cameras taking 2,000 separate pictures per second—the longest focal-length aerial cameras, weighing as much as 650 pounds—radar recording cameras—remotely controlled cameras for uninhabited drone aircraft—television recording cameras—and so on. Photography from an airplane has as its tools the same basic equipment you need to take snapshots. It is likely therefore that new developments in aerial photography may lead to better cameras for us to use on the ground.

SOURCES: Lt. Col. Horace W. Poté, Public Information, Wright Field, Dayton, Ohio; Mr. Louis Zarem, Air Force Photographic Laboratory, Wright Field; Mr. Amrom H. Katz, Physicist, Photo Laboratory, Wright Field; Mr. J. S. Hamilton, Fairchild Camera Company, New York; Col. Leon W. Gray, General Electric Company, Schenectady, N. Y.

Method in My Madness

Continued from page 26

cover for *Life* of a black cocker spaniel. Almost all cocker spaniels are charming. This one had the added asset of looking like a giant black mushroom when posed in a certain way. That may not be the reason why *Life* used it as a cover, but the picture was different than run-of-the-mill dog photos.

Once I was assigned to illustrate an article for *Collier's* by an author who writes about animals. The author and I went to the Bronx Zoo, where we got a baby tiger, an orangutang and a cockatoo.

Only one man in the zoo could handle the cockatoo. The orangutang was worth \$8,000 and the tiger's mother got nervous because her baby was missing. I had to shoot fast.

I got the picture I wanted when the orangutang began ripping the paper out of the typewriter and the tiger strolled across the desk, while the author looked on helplessly with the cockatoo perched on one shoulder.

Another time *Life* sent Mischa Auer, the comedian, and me to the Borscht Belt (Catskill Mountain resort region in New York State) to do a humorous picture story on how to eat borscht. Mischa and I were lounging on the porch of the Concord Hotel, one of the larger places in the resort section, when I saw a horse grazing a short distance away.

I wondered what would happen if we offered the horse some borscht. We got a bowl and Mischa stuck it under the horse's nose. Maybe the horse was particular about his food. At any rate, he curled up his lips at the borscht.

Mischa, seeing the horse reject the borscht so violently, curled his lips in return. I shot the picture of lip meeting lip, which appears on page 24.

Such pictures, of course, require only straight shooting. There are many other occasions when a photographer can break sacred rules of photography and still come up with unusual, different shots.

According to conventional photographers, I do everything that is supposed to be wrong. For instance, I shoot right into the light. A salon photographer would be horrified if he saw me doing it. But I like reflection and don't worry about it. If it's bad, it can often be rectified in the printing.

I like to distort things, to use the wrong filters. For example, the shot of the girls in the dressing room of a musical (page 27) was taken with a Duto filter on the lens of my Rolleiflex. Who ever heard of taking such a picture with a diffusing filter? But I don't care because I like the effect I obtained.

I always take such chances. I don't shoot the right way because the right way wouldn't please me. There are so many photographers shooting the right way that there should be someone taking pictures the wrong way.


I have no pet camera favorites either. I use anything from a 35mm to an 8x10, depending upon the occasion.

Of course, it's easy to talk about a new approach to photography, but another thing to achieve it. I get my new approach by breaking my head and having sleepless nights and sweating it out. It doesn't all come by a mere snap of the fingers. Sometimes it doesn't come at all.

But I like problems. I have outgrown the stage where I like to shoot things as they are.

I very much prefer a tough assignment where I have to wrack my brains to figure out a new angle. That's what makes photography fun for me.

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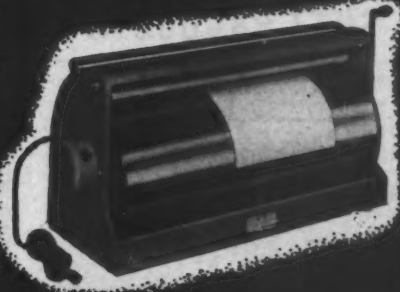
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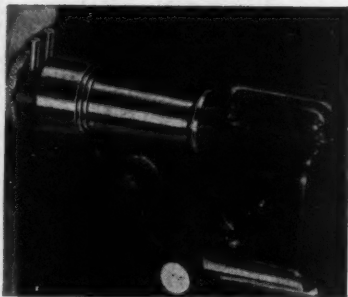
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Three Hours in Chicago

Continued from page 77

ground is an arty subject for a picture. Inside the big building there are many good picture opportunities, such as a shot of a 700 foot long corridor, as a study in perspective. Paul Ricks, manager of the Merchandise Mart Tours, will gladly cooperate with photographers who want to do special pictures of The Mart, either inside or from the roof.

Lake Michigan, one of Chicago's prized exhibits regardless of season, offers good picture subjects on its 10 miles of beaches, in adjacent parks, and around the Navy Pier. In warm weather the beaches are crowded with people—weary business folk getting a suntan on their lunch hour, young lovers, nursemaids tending the children of the well-to-do, and just plain loafers. In the winter the ice patterns are often fantastic picture subjects.

Chicago's parks are another cameraman's paradise. People become strangely relaxed in the peaceful atmosphere of trees, benches, statues, and pigeons.

In winter, the parks provide intriguing subjects in frozen splendor; branches of trees piled high with snow, break-waters and ropes on the beach caked with glistening ice.

In the parks will also be found Chicago's museums and zoos. Most museums, with the exception of the Art Institute, permit serious amateur photographers to take pictures inside, if application is made to the Director's office in advance. At the Adler Planetarium, you can photograph the sun, moon, planets, and 9,000 stars without a wide-angle lens. They are reproduced on the inside of a curved ceiling by a special projector. About 10,000 specimens of sea life are on display at the John G. Sheed Aquarium on Lake Shore Drive. Here, in well illuminated tanks, you can photograph a sea horse, a sleek shark, or the Hawaiian red squirrel fish. They also have live penguins, turtles, and other oddities. The Museum of Science and Industry, one of the world's fine examples of classical architecture, offers still other subjects for the roving photographer. There is a transparent woman, full size, demonstrating the functions of the human body. Also on display is a 3,000-foot model electric railroad, "Yesterday's Main Street" with an interesting old time photo studio and nickelodeon, and a full size replica of a modern farm. All museums are free on Saturday and Sunday but during the week admission fees are charged.

Chicago has two zoos, Lincoln Park

and Brookfield. The Lincoln Park Zoo is near the heart of town, while the other is 14 miles out in the country. At the Lincoln Park Zoo you can photograph "Bushman," the giant gorilla, playful Pandas, and the fine collection of lions, camels, zebras, bears, and sea lions. Instead of cages or bars, at the Brookfield zoo they have wide moats to separate beasts of the veldt and jungle from spectators. A telephoto lens will get you animal pictures as natural and free from cages as a trip to Africa might provide.

Chicago is a city of many small villages, all knit together by miles and miles of trolley, elevated, and subway tracks, bus lines, and trains. For 13 cents you can ride for an hour and a half around the city by trolley and shoot a lot of it through the window.

But to really know Chicago, and record it on film, you have to feel it in the soles of your feet. You must trod the hard sidewalks, searching for interesting faces, suffering blisters and callouses in the hope that you will have a chance to use your imagination and camera artistry to get a good photograph.

There are two walks we can recommend.

The first, down Halsted Street, from north to south, will take you through many international settlements. You will find the Maxwell street market, where there are literally hundreds of push carts in the streets from which vendors sell strings of garlic and peppers, pungent cheeses, fresh and not-so-fresh vegetables, used clothing, pots and pans—in fact anything you might choose to ask for. Near Pulaski Road is the Old Bohemia section, where Americans of Czech origin often wear their colorful old country clothes. Along the way you'll meet Greeks, Italians, Mexicans, Germans, and Swedes, all of whom have appropriated a few blocks of Halsted Street as their national settlement. At the end of your walk, which has now become a hike, you'll find Chinatown, near Wentworth Avenue and Cermak Road. Both the buildings and the people assume the dress and customs of their native country. You can see children crouched in doorways munching on smoked octopus while their parents play Fan Tan on the steps.

The second walk, out West Madison Street from the Northwestern RR Station, takes you through Skid Row. (See January MODERN PHOTOGRAPHY.) This is the part of Chicago dramatized in the movie "Knock On Any Door." This gaudy section of town is made up of small industrial plants, missions, flophouses, and saloons. The thousands of men and

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women who live there are dirty, half-
drunk with cheap wine, and all unable
to cope with the problems of life.
These people are not criminals or
social outcasts. For the most part,
they suffer from poverty and loneli-
ness. Here you will find men eating
a bottle of tomato catsup straight,
since it is nourishing and costs only
a few pennies. In some saloons you
can photograph strip tease dancers
doing their act, if you tip them a dol-
lar or two in advance. You may catch
a man preparing a "Pink Lady" on a
curb stone. This is a potent drink
made by straining canned heat
through an old crust of bread into
an empty tin can.

The round-trip to the Union Stock
Yards takes about an hour and a half
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taxi, plus time for taking pictures.

The picture possibilities include:
cowboys herding cattle through
chutes; the "Judas" goat leading sheep
to slaughter; processing of meat after
it is removed from the animal, and
the manufacture of meat products
such as hot dogs.

Sports enthusiasts who like to take
fast action pictures at sporting events
will find subjects for their cameras
the year 'round in Chicago. Photog-
raphy is permitted, even encouraged,
at all of the following sporting events:

Baseball: White Sox, Comiskey
Park; Cubs, Wrigley Field.

Boxing: Club DeLisa (Monday
nights); Rainbow (Tuesday); Mad-
ison A.C. (Friday).

Horse Racing: Arlington and Wash-
ington Parks (in season).

Harness Racing: Sportsman and
Maywood Parks (in season).

Indoor Polo: Gill Stadium (Friday
nights).

Football: Soldiers Field and Com-
iskey Park (in season).

Wrestling: Rainbow (Wednesday
nights).

Midget Auto Racing: Raceway
Park (in season).

Girls' Basketball: Bidwell Stadium,
Rock-Ola Stadium (every night dur-
ing winter months).

If inclement weather makes out-
door photography undesirable, the
time in Chicago need not be wasted.
Two of Chicago's department stores
have fashion shows twice a week in
their tea rooms. You can photograph
pretty models in the latest fashions at
Carson, Pirie, Scott & Co., on Wednes-
day and Friday from 12:15 to 2:00
p.m., on the 8th floor, and at Marshall
Field & Co., on the same days from
12:30 to 1:15 p.m. on the 7th floor.

Regardless of the season of your
visit, Chicago offers the man with a
camera wide variety of subjects to
choose from, and restrictions are few.

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ground, which may open the door to valuable pro-
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books about photography

**The Twin-Lens Camera
Companion**

By H. S. Newcombe
Focal Press, N. Y., \$3.75

The beginner in photography is con-
fronted with a terribly confusing array
of instructional literature. Obviously,
his best choice is a book that will begin
where he is and give him the basic
facts of camera technique in terms of
the equipment he himself will be using.
The amateur with a twin-lens reflex
could do much worse than go along
with this British book which has now
been adapted for American readership.

Into the first 165 pages of the book
is packed a lot of sound picture-taking
fundamentals—both as applied to the
special situations presented by the
twin-lens reflex, as well as just plain
good photography with any camera. It
is all basic stuff that should be learned
early in the career of every camera-
man. An introduction to developing,
printing, and general darkroom tech-
nique forms another section. The two
together make up a pretty compre-
hensive instructional manual for the new-
comer to photography.

Perhaps the most valuable part of
the book, however, and the feature
that will appeal to beginner and ad-

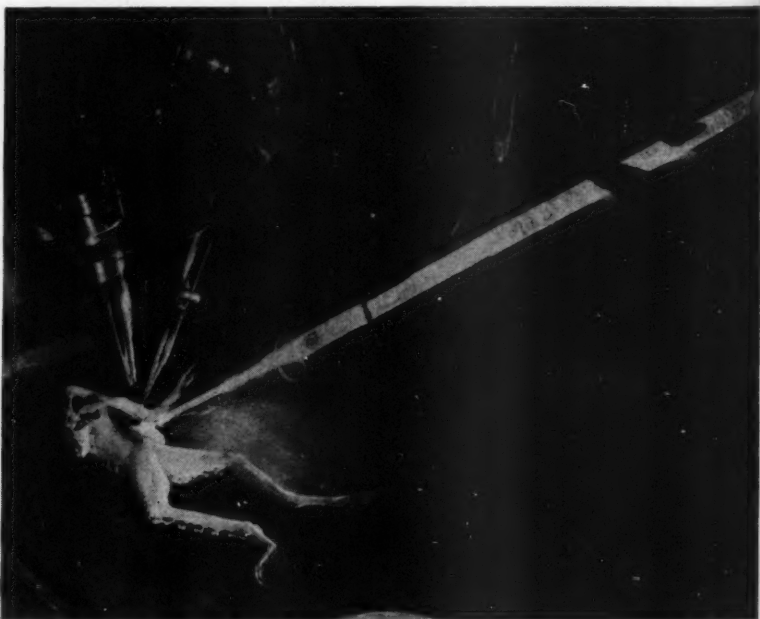
vanced worker alike, is a section de-
voted to the work and comments of ten
outstanding American photographers.
Each discusses and illustrates a partic-

FRITZ GORO, LIFE MAGAZINE



CHICAGO'S Prof. Thorfin Hogness

ular phase of photography. There is
Phillipe Halsman on portraiture, Roy
Pinney on children, Ylla on animals,
Karger on stage work, Henle on fash-
ions, Feininger on architecture, to
mention several. The comments by
these photographers are meaty and to



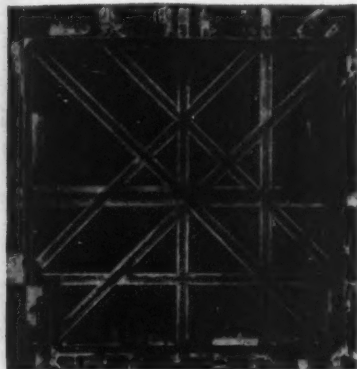
FRITZ GORO, *Life* photographer, used a Rollei for this shot showing study of blood
circulation in a living frog. He contributes a discussion of science photography.

the point. They give a good idea of the problems encountered as well as their own tested solutions. There are few photographers who could not profit by one or more of these discussions.

The Chicago Book

By Fred G. Korth
Korth, \$1.00

When Father Marquette blessed in 1673 the swampland where today stands Chicago, he probably never dreamed that on the spot would rise the nation's second largest city.



... airport from the air

In a new picture book about mid - 20th - century Chicago, Fred Korth has put together over 100 of his photographs to tell a typically romantic big-city story. Here is the world of concrete and steel, of industry, finance, fashion, and entertainment. Conspicuous by its absence is Chicago's "skid row," her poor-white and negro sections.

Some of the pictures are just snapshots with a Chamber-of-Commerce flavor. Others are fine photographs. Particularly outstanding are several aerial shots that capitalize on the patterns formed unwittingly by man in building up the city.

The Chicago Book is nicely made up and bound in stiff paper. Beautifully printed in gravure on heavy, good-quality stock, the reproduction



... concert in Grant Park

does full justice to the photographs.

The reader who plans to carry a camera on his next visit to Chicago (see "3 Hours in Chicago," page 74) will find in it a source of picture ideas, as well as suggestions for camera angles and effective lighting. Others will appreciate the guidance Korth's pictures give them in subject matter and striking pictures to be found in all big towns.

Modern PHOTOGRAPHY'S Book Department

All of the books listed here are recommended by the Editors of Modern Photography for their information and entertainment value.

books of general interest

- 1 The History of Photography by Beaumont Newhall.
The history of photography discussed from a modern, critical point of view. 256p., fully illus. \$5.00
- 2 The Chicago Book by Fred G. Korth.
Reviewed this issue. 66p. \$1.00
- 3 Painting with Light by John Alton.
Hollywood lighting techniques explained. 191p., 292 illus. \$6.00
- 4 This is Photography by Thomas H. Miller and Wyatt Brummit.
Not a primer, but a sound introduction to photography in its many phases. 260p., profusely illus. \$2.00

books on "how-to-do-it"

- 5 Feininger on Photography by Andreas Feininger.
Outstanding photo instruction with emphasis on the creative approach. 409p., effectively illus. \$15.00
- 6 The Twin-Lens Camera Companion by H. S. Newcombe.
Reviewed this issue. 319p., many diag. and illus. \$3.75
- 7 Skys shooting by R. N. and M. L. Mayall.
Simple instructions for photographing the stars with your camera. 174p., 59 illus. & 17 tables. \$3.75
- 8 "Strobe" — the Lively Light by Howard Luray.
The "why and how" of electronic flash, written in an easy-to-understand manner. 128p., 79 diag. and illus. \$4.00
- 9 Graphic Graflex Photography ed. by Willard D. Morgan and Henry M. Lester.
A symposium on basic photographic practice, general and specialized, written by 32 experts. 8th ed., 456 p., 650 illus. \$4.50

- 10 Fred Archer on Portraiture by Fred Archer.
One of the outstanding books on portraiture technique, with specific instructions on posing, lighting, make-up, and camera work. 224p., 212 photos, 70 diag. \$5.75
- 11 Kodachrome and Ektachrome by Fred Bond.
The latest edition of this outstanding book on color photography. 3rd ed., 244p., beautifully illus. \$7.50
- 12 All the Photo Tricks by Edwin Smith.
A comprehensive guide to photography's special effects: double exposure, montage, distortion, etc. 3rd ed., 279p., well illus. \$3.00

books for reference

- 13 Handbook of Photography ed. by Keith Henney and Beverly Dudley.
A mine of advanced technical information on the scientific basis underlying photography and its specialized applications. 871p., many illus. \$8.50
- 14 Photo Lab Index by Henry M. Lester.
The standard photographic reference book giving concise technical information on every phase of photography and photo materials of all manufacturers. Quarterly supplements available at \$3.00 per year. 10th ed., 1200p., approx. many charts, in deluxe 6-prong loose-leaf binder \$16.00

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last word letters to the editor

Honesty

Sirs:

I like the way *Modern* aims towards realism in photography. There is an honest, sincere inner quality about the pictures you display in your magazine. It is the fresh approach which can



stand the test of time because it goes to everyone's heart. Here is one of my pictures which, like yours, bows to neither the sophistication, nor the pictorial "rules" which so often sterilize pictures of their human meanings. I deeply hope you will continue to value the meaning of pictures above mere "prettiness."

Mexico, D. F.

NACHO LOPEZ

The Excise Tax

Sirs:

Your article, *Why Penalize Photography*, in the December issue of *Modern Photography*, was the most lucid and compelling coverage of the Excise Tax problem that we've ever read.

It made us more than ever aware of the fact that we can and must raise our protests against this tax discrimination to those who represent us in making our laws!

All of us—amateurs, professionals, dealers, wholesalers, and manufacturers—must join together to do away with this "penalty" against the enjoyment of photography.

We sincerely hope that the rest of the industry will also shake off its lethargy and protest to their congressmen as you suggest.

RICHARD J. BLUE

Lisco Products Co. Sales Manager

126

Sirs:

Accolades to you for the editorial: *Why Penalize Photography*. I have framed a typical letter which will be duplicated by many of my friends here in Cleveland—to be sent to our congressmen. We're definitely asking for action.

Shaker Heights, Ohio W. S. MC LAIN

Sirs:

The latest crime against photography can be effectively licked by magazines such as *Modern Photography*. Your latest editorial denouncing the high excise taxes correctly blames the laxity of the professional societies and inefficient organization of the amateur photo clubs. The average American has the attitude of "the devil with it—let him do the job." By proper canvassing of the manufacturers, professional, and amateur and telling him when and where to write for the most effective results, this injustice can be corrected.

Potsdam, N. Y. ROBERT F. O. NOWAK

Milwaukian Southpaws

Sirs:

Howard Sochurek's pictures from the *Milwaukee Journal* are always excellent, but how in the world did he ever find so many lefthanded boys as appear in the snowball fight on page 98 of the December issue?

Orland, Calif.

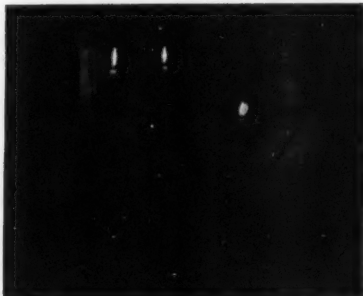
R. C. MINARD

• *Actually the boys are all right-handers. The picture was merely "flopped" by the layout department to achieve better magazine presentation.*—Ed.

By Candlelight

Sirs:

This picture, made by candlelight only, resulted from an idea I picked up in *Modern* the other day. I am both surprised and delighted that so simple an idea could turn out so well. Using candle flames to obtain a sharp focus with my Ciroflex, I made the picture



with a 1-second exposure at F:4. I would heartily recommend that other amateurs try this method for obtaining unusual pictures of their children.

Newport News, Va. J. P. GILLEN, JR.

Doctored Psychologist

Sirs:

I especially like this picture of a friend of mine who is a psychologist. Originally it was a straight print of



great clarity and detail made with a Kine Exacta. But in the finished portrait there was no explanation of the apparent look of anguish. By moving the easel three times during enlargement, the images were printed off register—and I think the portrait gained interpretive meaning as a result.

New York

CHARLES SIMMONS

• *You will be interested in "Make Experimental Techniques Fit the Picture" on page 56 of this issue, Chas.*—Ed.

Places To Sell Pictures

Sirs:

I greatly enjoyed the article *500 Places to Sell Pictures* in your December issue, but you omitted one point that is important to me. Do publishers buy Kodacolor or Printon prints the same as they do transparencies, and since these cost a minimum of \$5 per 8 x 10", how much do they pay for them?

Akron, Ohio

CARL ENGLEHART

• *Publishers prefer transparencies and rarely buy color prints at any price. Working from the original transparency eliminates a great many engraving problems otherwise encountered with color prints.*—Ed.

classified want ads

Classified Want Ads may be inserted in *Modern Photography* by any reliable individual, camera dealer, or specialty house. Terms: 20c a word. Each word, including each item in the address, counts as one word. Send cash with order. 5% discount for 6 consecutive insertions. Press run 250,000. Forms close on the 25th of each month.

cameras, equipment for sale

4x5 GRAFLEX with Bausch & Lomb Tessar, 4x5" f4.5 and Leather Case and Film Pack Adapter —\$55.00. Five days trial—BARBEAUS', Oswego 6, N. Y.

CERTO DOLLINA, 35, f2 lens, Compur Shutter, 1/500, Coupled Rangefinder, Case, Used, EXCELLENT. VILLA CAMERA STORE, 118 S. E. 1st Avenue, Miami, Florida.

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4x5 PACEMAKER, Enlarger Accessories, \$285. IKOFLEX, f:3.5 Tessar, case \$90.00. ALL LIKE NEW. J. Jankovsky, 70 Calvert Place, Bridgeport, Conn.

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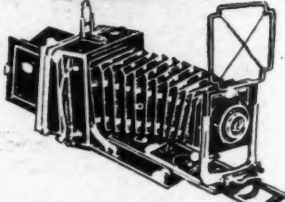
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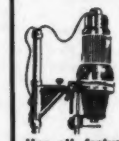
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OMEGA D-2

Negatives 4"x5" to 35 mm. Uses lenses 6 1/2" to 2" and matching condensers for perfect evenness of illumination.

With Colorhead **\$183.50**
(plus \$30.58 tax)
Without Colorhead **\$168.50**
(plus \$28.08 tax)



AUTOMEGA B-3

Negatives 2 1/4"x3 1/4" down to 35 mm. "Micro" auto-focusing. Rack-and-pinion raising and lowering. Distortion correction. Externally adjustable triple condensers.

\$150.30 (plus \$25.05 tax)



AUTOMEGA E-3

takes negatives 5"x7" and smaller. Three exchangeable lenses. Famous Simmon "Micro" auto-focusing. Distortion correction. Rotating negative carriers.

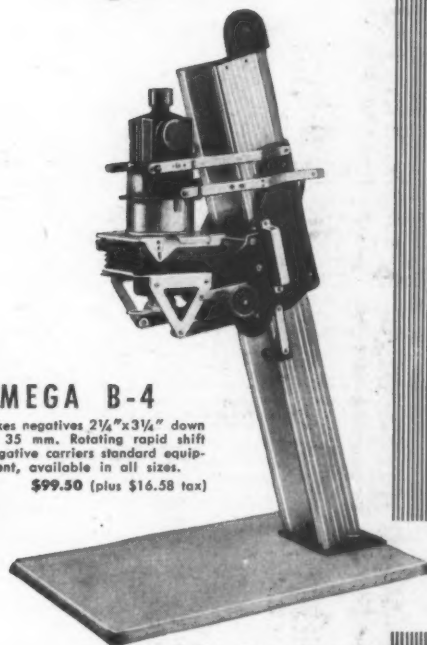
\$325.00 (plus \$54.17 tax)



OMEGA B-4

takes negatives 2 1/4"x3 1/4" down to 35 mm. Rotating rapid shift negative carriers standard equipment, available in all sizes.

\$99.50 (plus \$16.58 tax)



OMEGA enlargers are designed by master craftsmen to produce sharp, brilliant results of matchless quality. They give you perfect rigidity, evenness of illumination, high light output, ventilated lamphousing, conveniently placed levers and handles for quick operation. They are easy and economical to use and are supported by Simmon Brothers' proverbially excellent service.

Your dealer has a full line of Omega enlargers and accessories. He will be glad to demonstrate them and recommend the best lenses for your use. Ask him for literature.

SIMMON BROTHERS, INC.

30-28 Starr Avenue • Long Island City 1, N. Y.

WEST COAST: WESTERN MOVIE SUPPLY CO., SAN FRANCISCO 8, HOLLYWOOD 38

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More for you in every detail when you choose a KODAK TOURIST Camera

More for you . . . and here's why. Each Kodak Tourist Camera belongs to a co-ordinated family of cameras—based on one ideal design of body, bed, bellows, strut mechanism, top housing, and other basic parts. Such unified planning yields important savings—savings that are passed on to you in extra features, finer finish, higher standards of quality and performance. Every Kodak Tourist Camera—from the top-flight Synchro-Rapid 800 Model to the Kodet Model—gives you these "bonus" values.

This is the standard *f/4.5* model of the Kodak Tourist Camera. Same basic construction and styling as the "800" . . . has the fine Kodak Anaston *f/4.5* Lens, 3-element, Lumenized, and a Flash Kodamatic Shutter with seven settings—"T," "B," 1/10, 1/25, 1/50, 1/100, and 1/200. Synchronizes both Class "F" and Class "M" flash lamps. Focuses 3½ feet to infinity, like other Kodak Tourist focusing models. Accepts the Kodak Tourist Adapter Kit, below. Camera, \$71.



This is the Kodak Tourist Camera, *f/6.3*. It's identical in basic construction with the *f/4.5* models . . . has the Kodak Anaston *f/6.3* Lens, Lumenized, in Kodak Flash Diomatic Shutter with "T," "B," 1/25, 1/50, 1/100 . . . and accepts the Kodak Tourist Adapter Kit. A capable, versatile camera—second only in lens and shutter speed to the finest Kodak Tourist Camera models. The price, only \$47.50.



Here's the proud "head of the family"—your Kodak Tourist Camera with Kodak Synchro-Rapid 800 Shutter. It's a lusty handful of picture-taking capacity, precision workmanship, and smart styling. The lens is the superb Kodak Anastar *f/4.5*, four-element, Lumenized; the shutter is the finest, fastest between-lens type,

with ten accurate speeds, 1 full second to a sizzling 1/800 . . . plus "B" . . . and flash contacts for both Class "F" and "M" lamps, as well as for Kodatron and similar electronic flash equipment.

Construction is typical of Kodak Tourist Cameras—a rugged die-cast, light-alloy body . . . bed-and-strut design that gives a 4-to-1 mechanical advantage for extreme rigidity and accurate alignment . . . ultra-steady shutter release built into the camera bed . . . sturdy scuff-resistant Kodadur covering . . . and metal parts in black lacquer and gleaming chrome.

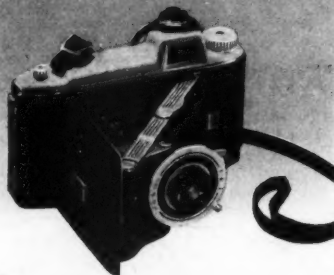
It's a jewel of a camera . . . priced at \$95 . . . and the accessory Kodak Tourist Adapter Kit, below, multiplies its high versatility many times.

EASTMAN KODAK COMPANY ROCHESTER 4, N. Y.

Prices include Federal Tax wherever applicable

A favorite member of the family is the Kodak Tourist Camera, *f/8.8*. Just as smartly styled as the finest models . . . equipped with a fully corrected 100mm. Kodak Anaston *f/8.8* Lens in Kodak Flash Diomatic Shutter with "T," "B," 1/25, 1/50, and 1/100 . . . it's an outstanding value at only \$38.50.

A model of operating simplicity is the Kodak Tourist Camera with fixed-focus Kodet Lens and Flash Kodon Shutter. Smart styling and top-grade construction make it a true member of the Kodak Tourist family—and the price is only \$24.50.



Here's the Kodak Tourist Adapter Kit—ingenious accessory assembly that lends unique versatility to your Kodak Tourist "800," standard *f/4.5*, or *f/6.3* model.

With this kit, any of the three top Kodak Tourist Cameras not only can take 2¼x3¼-inch pictures in either black-and-white or full color—but also can make miniature Kodachrome transparencies and miniature black-and-white negatives (28x40mm. on No. 828 Kodak Film)—and, in addition, black-and-white or Kodacolor negatives, or Kodak Ektachrome transparencies, either 1½x2¼ or 2¼x2¼ inches!

The kit, with case, is only \$14.50.



Kodak
TRADE-MARK



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